



2008-2012 MORTALITY REPORT

Prepared by

Center for Policy, Planning, and Evaluation

District of Columbia Department of Health

Government of the District of Columbia

Muriel Bowser, Mayor

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TABLE OF CONTENTS

ACKNOWLEDGMENTS	iii
TABLE OF CONTENTS.....	iv
LIST OF TABLES	vi
LIST OF FIGURES	vi
EXECUTIVE SUMMARY	viii
INTRODUCTION	1
Population by Ward	1
Health Insurance Coverage	3
DOH PROGRAM AREAS, 2012	4
Cardiovascular Disease and Diabetes Prevention Program	4
Physical Activity, Nutrition, and Obesity Prevention.....	6
Comprehensive Cancer Control	7
METHODS FOR MORTALITY REPORT.....	9
MORTALITY TRENDS, 2008 to 2012	10
LEADING CAUSES OF DEATH.....	17
PREMATURE DEATH.....	52
YEARS OF POTENTIAL LIFE LOST	53
ADULT MORTALITY: ELDERLY (65 YEARS AND OLDER).....	55
DISCUSSION	56
REFERENCES	58
APPENDIX 1: Population Data.....	60
APPENDIX 2: Leading Causes of Death by Race and Sex.....	62
TECHNICAL NOTES	63

LIST OF TABLES

Table 1. Population by Race and Hispanic or Latino Origin in the District of Columbia: 2010	2
Table 2. Health Insurance Coverage of the Total Population and Adults, District of Columbia, 2013	3
Table 3. Crude Mortality Rates by Age Group: District of Columbia Residents, 2008-2012	20
Table 4. Number of Deaths by Age Group: District of Columbia Residents, 2008-2012	20
Table 5. Crude Mortality Rates by Ward: District of Columbia Residents, 2008-2012	13
Table 6. Age-Adjusted Death Rates by Ten Leading Causes of Death: District of Columbia, 2012 and United States, 2012	17
Table 7. Number of Deaths and Age-Adjusted Mortality Rates for Ten Leading Causes of Death: District of Columbia Residents, 2008-2012	19
Table 8. Leading Causes of Death by Average Age: District of Columbia Residents, 2012	20
Table 9. Ten Leading Causes of Death and Death Rates by Sex: District of Columbia Residents, 2012.....	21
Table 10. Ten Leading Causes of Death and Death Rates by Race: District of Columbia Residents, 2012	22
Table 11. Number and Crude Rate of Deaths by Ward: District of Columbia Residents, 2012.....	23
Table 12. Leading Causes of Premature Deaths before Age 70 Years District of Columbia Residents, 2012.....	52
Table 13. Years of Potential Life Lost (YPLL) Before Age 70 by Sex and Selected Causes of Death, District of Columbia, 2012.....	53
Table 14. Ten Leading Causes of Death to Residents Aged 65 and Older: District of Columbia, 2012....	55
Table A1.1. District of Columbia Population by Ward: Census 2010 Population and Estimated Population for 2012.....	60
Table A1.2. District of Columbia Population Estimates by Age and Sex, 2012	60
Table A1.3. District of Columbia Population Estimates by Race and Ethnicity, Sex, 2012.....	61
Table A2.1. Ten Leading Causes of Death and Crude Death Rates by Race and Sex: District of Columbia Residents, 2012	62

LIST OF FIGURES

Figure 1. Trends in Age-Adjusted Mortality by Sex: District of Columbia Residents, 2008-2012.....	11
Figure 2. Trends in Age-Adjusted Mortality by Race/Ethnicity: District of Columbia Residents, 2008-2012	12
Figure 3. Age Distribution of Resident Deaths in the District of Columbia, 2012	14
Figure 4. Percent of Female and Male Resident Deaths per Age Group: District of Columbia, 2012	15
Figure 5. Percent of Black/African American and White Resident Deaths per Age Group: District of Columbia, 2012.....	16
Figure 6. Ten Leading Causes of Death: District of Columbia, 2012.....	18
Figure 7. Number and Crude Rate of Deaths by Ward: District of Columbia Residents, 2012	24
Figure 8. Heart Disease Deaths in the District of Columbia by Age Group, 2012	25
Figure 9. Heart Disease Crude Mortality Rates by Ward: District of Columbia Residents, 2012.....	26
Figure 10. Cancer Deaths in the District of Columbia by Age Group, 2012	28
Figure 11. Cancer Crude Mortality by Ward: District of Columbia Residents, 2012.....	29
Figure 12. Stroke Deaths in the District of Columbia by Age Group, 2012	31
Figure 13. Cerebrovascular Disease (Stroke) Crude Mortality Rates by Ward: District of Columbia Residents, 2012	32
Figure 14. Deaths Due to Accidents in the District of Columbia by Age Group, 2012.....	33
Figure 15. Accidents Crude Mortality Rates by Ward: District of Columbia Residents, 2012	34
Figure 16. Diabetes Deaths in the District of Columbia by Age Group, 2012	36
Figure 17. Diabetes Crude Mortality Rates by Ward: District of Columbia Residents, 2012	37
Figure 18. Chronic Lower Respiratory Disease Deaths in the District of Columbia by Age Group, 2012.....	39
Figure 19. Chronic Lower Respiratory Disease Crude Mortality Rates by Ward: District of Columbia Residents, 2012	40
Figure 20. Alzheimer's Disease Deaths in the District of Columbia by Age Group, 2012	42
Figure 21. Alzheimer's Disease Crude Mortality Rates by Ward: District of Columbia Residents, 2012.....	43
Figure 22. Deaths Due to HIV/AIDS in the District of Columbia by Age Group, 2012	45
Figure 23. HIV/AIDS Crude Mortality Rates by Ward: District of Columbia Residents, 2012.....	46
Figure 24. Assault/Homicide Deaths in the District of Columbia by Age Group, 2012	47
Figure 25. Assault/Homicide Crude Mortality Rates by Ward: District of Columbia Residents, 2012	48

Figure 26. Influenza and Pneumonia Deaths in the District of Columbia by Age Group, 2012.....	50
Figure 27. Influenza and Pneumonia Crude Mortality Rates by Ward: District of Columbia Residents, 2012.....	51
Figure 28. Years of Potential Life Lost (YPLL) Before Age 70 by Sex among Ten Leading Causes of Death, District of Columbia, 2012	54
Figure A2.2. Crude Death Rates by Sex and Race: District of Columbia Residents, 2012.....	62

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EXECUTIVE SUMMARY

The overall crude mortality rate in the District has decreased 15.4 percent from 2008 to 2012, with the highest decline in mortality rate observed among decedents aged 5 to 14 years (53.2 percent decrease). From 2008 to 2012, age-specific death rates have declined within each age group, except for decedents 85 and older (4.8 percent increase).

The age-adjusted mortality rate has decreased 12.4 percent from 2008 to 2012; 14.2 percent among males and 6.1 percent among females.

From 2008 to 2012, the age-adjusted mortality rate among blacks/African Americans and whites decreased 10.1 percent and 8.1 percent, respectively.

Rates for Hispanic or Latino residents have fluctuated in the past 5 years, with the lowest rate of 286.7 per 100,000 in 2008 and highest rate of 701.1 per 100,000 in 2009.

The crude mortality rate in five of the eight wards declined from 2008 to 2012. Declines were observed in Wards 1, 2, 3, 4, and 7, with the largest percent decrease in Ward 2 (49.5 percent).

Wards 5, 6, and 8 saw increases in crude mortality rates, with the highest increase for Ward 8 (14.6 percent) over the five-year period.

In 2012, there were 4,648 deaths to residents of the District of Columbia. The overall crude death rate was 735.1 per 100,000 population; the age-adjusted death rate was 758.0 per 100,000 U.S. 2000 standard population.

In 2012, among District resident deaths, 2,260 were males and 2,388 were females, with respective crude death rates of 755.6 per 100,000 population and 716.5 per 100,000 population.

Additionally, 3,568 deaths were to blacks/African Americans and 980 deaths were to whites; the crude death rate for blacks/African Americans (1,127.4 per 100,000 population) was significantly higher than for whites (361.2 per 100,000 population).

The 10 leading causes of death accounted for 74.1 percent of DC resident deaths in 2012.

Deaths due to Heart Disease and Cancer accounted for 50 percent of deaths in the District in the last 5 years (2008 to 2012).

Heart Disease and Cancer have consistently ranked number 1 and 2 causes of death, respectively, in the District with fairly steady declines in the last 5 years.

In 2012, heart disease was the leading cause of death (1,296 deaths), with a crude mortality rate of 205.0 per 100,000 population and age-adjusted mortality rate of 212.5 per 100,000 population. Also, 58 percent of heart disease deaths occurred to residents aged 75 years and older. Blacks/African Americans had a heart disease death rate nearly four times higher than that of whites—330.2 per 100,000 population and 86.2 per 100,000 population, respectively. The crude death rate was the highest for Ward 5 (361.7 per 100,000 population), and the lowest in Ward 2 (85.2 per 100,000 population).

In 2012, cancer was the second leading cause of death in the District. There were 1,081 District resident deaths from cancer—over one in five deaths. The crude cancer death rate was 171.0 per 100,000 population and the age-adjusted rate was 178.6 per 100,000 population. The black/African American cancer death rate was nearly three times higher than the rate for whites, 252.8 per 100,000 population and 93.2 per 100,000 population, respectively. Ward 5 had the highest crude rate of cancer deaths, 261.0 per 100,000 population.

Cerebrovascular disease or stroke was the third leading cause of death in the District in 2012, an age-adjusted rate of 33.7 per 100,000 population. Females had a higher stroke mortality rate than males, 41.4 per 100,000 population and 22.7 per 100,000 population, respectively. Approximately 63 percent of stroke deaths occurred to DC residents aged 75 years and older in 2012. Ward 7 (47.0 per 100,000 population) and Ward 5 (46.4 per 100,000 population) had the highest death rates while Ward 2 had the lowest rate (17.3 per 100,000 population) for stroke.

In 2012, accidents were the fourth leading cause of death in the District; the age-adjusted mortality rate was 31.1 per 100,000 population. Males were more likely to die from accidents (38.8 per 100,000 population) compared to females (23.1 per 100,000 population). Additionally, 28 percent of deaths from accidents occurred before age 45 years. Ward 4 (42.9 per 100,000 population) and Ward 7 (42.6 per 100,000 population) had the highest mortality due to accidents.

Diabetes was the fifth leading cause of death (age-adjusted rate of 23.9 per 100,000 population) in 2012. The black/African American crude death rate for diabetes was 41.4 per 100,000 population, over ten times the rate for whites, 3.69 per 100,000 population, for whom diabetes was not among the ten leading causes of death. Ward 8 (42.7 per 100,000) and Ward 7 (41.2 per 100,000) had the highest crude diabetes death rates, and Ward 3 had the lowest diabetes death rate (1.2 per 100,000).

Chronic Lower Respiratory Diseases ranked the sixth leading cause of death in 2012 (age-adjusted death rate of 23.5 per 100,000 population). The greatest number of deaths was to residents aged 75 years and older. Ward 7 had the highest rate of Chronic Lower Respiratory Disease mortality, 41.2 per 100,000 population; Ward 2 had the lowest mortality rate, 8.0 per 100,000 population.

Alzheimer's disease was the seventh leading cause of death in 2012, with an age-adjusted rate of 20.5 per 100,000 population. However, in the District, Alzheimer's disease was the fourth leading cause of death among females (28.8 deaths per 100,000 population) as well as among whites (17.3 deaths per 100,000 population) but was not among the ten leading causes of death for males. Ward 4 had the highest Alzheimer's disease mortality rate of 41.6 per 100,000 population; Ward 1 and Ward 8 (5.3 per 100,000 population) tied for the lowest Alzheimer's disease mortality rate.

In 2012, HIV/AIDS was the District's eighth leading cause of death, with an age-adjusted death rate of 15.4 per 100,000 population. However, HIV/AIDS was not a leading cause of death for the U.S. in 2012. About 50 percent of decedents who died from HIV/AIDS were between the ages of 35 and 54 years. In the District in 2012, HIV/AIDS was the fifth leading cause of death among males (22.7 per 100,000 population) and seventh among blacks/African Americans (27.2 per 100,000 population), however, HIV/AIDS was not among the leading causes of death for females or whites. The highest crude death rate was in Ward 7 (30.9 per 100,000 population); Ward 3 (2.5 per 100,000 population) had the lowest HIV/AIDS mortality.

In 2012, assault/homicide was the ninth leading cause of death in the District, but was not a leading cause of death for the U.S. The 2012 age-adjusted homicide rate for DC residents was 11.6 per 100,000 population. Most deaths from assault/homicide occurred between ages 15-24 years (44 percent) and 25-34 years (27 percent). There were no assault/homicide deaths among whites in 2012. Of the 84 assault/homicides in 2012, 87 percent were black/African American males (24.8 per 100,000 population) and 12 percent were black/African American females. Ward 7 (39.7 per 100,000 population) had the highest crude death rate of assault/homicide while Ward 3, Ward 2, and Ward 4 had zero, one, and two assault/homicide deaths, respectively.

In 2012, Influenza and Pneumonia was the tenth leading cause of death in the District, with an age-adjusted mortality rate of 12.1 per 100,000 population. Influenza and Pneumonia deaths primarily occurred among older aged residents, with 56 percent of deaths at ages 75 years or greater. Ward 7 had the highest death rate (23.5 per 100,000 population) and Ward 4 had the lowest death rate (6.5 per 100,000 population).

In 2012, 42.8 percent of DC resident deaths occurred before age 70 years and considered premature. The leading causes of premature mortality were cancer, heart disease, accidents, HIV/AIDS, and homicide/assault. Suicide was a leading cause of premature death among residents aged 1 to 44 years.

In 2012, there were a total of 38,312 years of potential life lost due to premature deaths (before age 70 years), including a combined 12,972 years of life lost attributable to heart disease and cancer deaths, and combined 6,760 years of life lost attributable to accidents and assault/homicide.

INTRODUCTION

This report represents the release of final 2008-2012 District of Columbia (DC) resident mortality statistics and presents data according to a number of demographic and medical characteristics. Death counts and rates are often used as indicators of the health of a population. The Center for Policy, Planning and Evaluation (CPPE) at the DC Department of Health (DOH) collects and analyzes health data to assist programs in the design of strategies, interventions, and policies to reduce disease, injury, disability, and mortality in the District.

Community health programs within DC DOH strive to improve health outcomes for DC residents by promoting coordination with health care systems—to provide greater access to preventive medical care and support services as well as clinical quality improvements—and by garnering community engagement and partnerships for the implementation of public health programs. These programs address a broad range of conditions including cancer, cardiovascular disease, diabetes, asthma, as well as HIV/AIDS and sexually transmitted diseases (STDs).

Population by Ward

The 2010 U.S. Census reported the DC total population was 601,723. The District's total population increased by nearly 30,000 (5.2 percent) from the year 2000. The District is divided into eight Wards, designated geographic boundaries for political and administrative purposes that change every ten years. However, the District Wards are also frequently used for comparing sub-populations and for analyzing trends in the health status of residents. The average number of residents per Ward in 2010 was 75,215, an increase from the 2000 average of 71,507, and just below the 1990 average of 75,861. The largest number of residents (78,887) resided in Ward 3 and the smallest number (71,748) lived in Ward 7 in 2010 (Table 1). Additionally, the 2012 estimated population by Ward mirrors the 2010 distribution, the largest number of residents lived in Ward 3 (80,344) a 1.8 percent increase from 2010; the fewest number of residents resided in Ward 7 (68,035), a 5.2 percent decrease from 2010 (Appendix 1).

The District has a history of a dynamic demographic composition, with residents from diverse racial, ethnic, and economic backgrounds. From 2000 to 2010, the white, American Indian/Alaska Native, Asian, Hispanic/Latino populations, and persons of two or more races increased on average 25.5 percent, whereas the black/African American and Native Hawaiian/Other Pacific Islander populations decreased 12.2 percent, on average. Further, there are significant variations in population demographics distributed between Wards that should be considered when comparing health statistics between these areas. In 2010, Ward 7 had the largest proportion of blacks/African Americans (94.6 percent) and the lowest proportion of whites (2.0 percent). By contrast, Ward 3 had the lowest proportion of blacks/African Americans (5.0 percent) and the highest proportion of whites (83.5 percent). Ward 2 had the highest proportion of Asians and Pacific Islanders (8.9 percent) and Ward 1 had the highest proportion of Hispanic/Latino residents (21.1 percent). Table 1 presents the distribution of race and Hispanic or Latino origin by Ward for 2010.

Table 1. Population by Race and Hispanic or Latino Origin in the District of Columbia: 2010*

Geographic Area	Total Population	Race								Hispanic or Latino Ethnicity (of any race)
		One Race							Two or More Races	
		Total	White	Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Some Other Race		
District of Columbia	601,723	584,407	231,471	305,125	2,079	21,056	302	24,374	17,316	54,749
Wards										
Ward 1	74,462	71,443	35,405	24,709	386	3,045	46	7,852	3,019	15,709
Ward 2	76,645	74,282	57,782	6,760	196	6,836	61	2,647	2,363	7,299
Ward 3	78,887	76,522	65,906	3,945	177	5,257	28	1,209	2,365	5,914
Ward 4	75,773	72,816	18,601	44,459	334	1,218	59	8,145	2,957	14,179
Ward 5	74,308	72,298	12,259	56,489	285	1,037	32	2,196	2,010	4,707
Ward 6	76,238	74,094	37,402	31,969	306	3,246	42	1,129	2,144	3,670
Ward 7	71,748	70,519	1,435	67,850	234	146	14	840	1,229	1,934
Ward 8	73,662	72,433	2,681	68,944	161	271	20	356	1,229	1,337

*Census 2010 numbers are by 2012 Ward boundaries. Persons of Hispanic origin may be of any race. Each race category contains persons of both Hispanic and Non-Hispanic origin.

Source: U.S. Census Bureau, 2010 Census; *Indices 2013* Government of the District of Columbia.

Health Insurance Coverage

According to 2013 data from the Kaiser Family Foundation, nearly all DC residents had some source of health insurance coverage, only 8 percent were uninsured (Table 2). Further, most DC residents received health insurance coverage through their employer in 2013—46 percent of the total population, and 54 percent of adults aged 19-64 years. The second most common source of health insurance for DC residents was Medicaid, 26 percent of adult females were covered by Medicaid compared to 17 percent of adult males. There were 12 percent of total DC residents who received Medicare coverage in 2013.

In 2009, the District of Columbia ranked sixth in the U.S. for lowest total health care expenditures, spending over 6.2 billion dollars, or 0.3 percent of the U.S. total health care spending (Kaiser Family Foundation). However, in 2009, DC per capita health care spending was the highest in the nation, at \$10,349. The total Medicare spending in the District for 2009 was \$856 million.¹ In addition, in the Fiscal Year (FY) 2012, Medicaid spending in the District totaled \$2,110,863,709, which was 0.5 percent of the U.S. total Medicaid spending for FY 2012.²

Table 2. Health Insurance Coverage of the Total Population and Adults, District of Columbia, 2013

	Total Population		Adults aged 19-64 years					
	Number	%	All Adults		Females		Males	
	Number	%	Number	%	Number	%	Number	%
Total	650,700	100	450,400	100	233,100	100	217,200	100
Health Insurance Source								
Employer	296,400	46	244,800	54	121,600	52	123,200	57
Individual Plan	57,000	9	49,600	11	25,200	11	24,400	11
Medicaid (including CHIP)	153,600	24	97,800	22	59,800	26	38,000	17
Medicare	78,100	12						
Uninsured	52,200	8	46,300	10	21,400	9	24,900	11

CHIP= Children's Health Insurance Program

Note: Numbers may not add to the Total since residents insured by "Other public providers" (i.e., military or Veterans Administration) were excluded due to estimates with denominators under 100 or a relative standard error greater than 30%.

Source: Kaiser Family Foundation estimates based on analysis of the Census Bureau's March 2014 Current Population Survey (CPS: Annual Social and Economic Supplements) by the Kaiser Commission on Medicaid and the Uninsured. <http://kff.org/state-category/health-coverage-uninsured/>

¹ Centers for Medicare and Medicaid Services, Office of the Actuary, National Health Statistics Group. National Health Expenditure Data: Health Expenditures by State of Residence, December 2011.

² Urban Institute estimates based on Data from CMS (Form 64) as of (9/16/13).

DOH PROGRAM AREAS, 2012

Cardiovascular Disease and Diabetes Prevention Program

The Cardiovascular Disease (CVD) and Diabetes Program is a multifaceted program driven by three primary strategies: 1) promote and reinforce healthful behaviors and practices across the lifespan; 2) improve quality, effectiveness, delivery, and use of clinical preventive services; and 3) increase clinical-community linkages. The program is currently involved in several activities that reinforce these strategies and promote cardiovascular health and diabetes prevention for DC residents.

ACCESS & OUTREACH:

The Cardiovascular Disease and Diabetes Program provides sub-grants for community projects aimed at reducing health disparities, such as the community-based programs Hair, Heart, and Health and Healthy Corner Stores. There are also initiatives that aim to expand access to Chronic Disease Self-Management Programs and support growing the number of Community Health Workers (CHWs). Technical assistance and support are offered to community and clinical partners.

Reduce Disparities

- Medstar Washington Hospital's Hair, Heart, and Health Program provides community-based services in local barbershops to increase CVD screenings and referrals to self-management programs among high risk and vulnerable populations—African American males as well as limited or non-English speakers, among others.
- Healthy Corner Store Program expansion—in partnership with DC Central Kitchen and corner stores in low income areas without convenient and affordable access to grocery stores, the program will deliver fresh produce and healthy snacks to more stores throughout the District. The program also offers in-store nutrition education, cooking demonstrations, and help for store owners concerning marketing and technical assistance.

Disease Management

- Diabetes Patient Navigator Program with Healing Our Village, Inc. identifies patients who have uncontrolled diabetes and provides Diabetes Self-Management Education (DSME), MMT, and patient navigation services to improve disease management and reduce their hospital and emergency room visits.
- Community Health Worker (CHW) initiative aims to expand the CHW workforce and increase the number of community programs utilizing CHWs in the delivery of diabetes and chronic disease self-management education.

COLLABORATION:

The CVD and Diabetes program collaborates with health systems to improve health care quality and effectiveness, and appropriate utilization. By leading workgroups the program facilitates linkages between community programs and clinical settings.

- Participate in MillionHearts™ Initiative and improve hypertension control through strategies related to team-based care, the use of Health Information Technology (HIT) tools, and other methods to improve quality of health care delivery.
- Web-based resource directory www.diabeteslocal.org/dc provides users with a listing of prevention, chronic disease management, and health and wellness resources that are close to them.
- Association of State and Territorial Health Officials (ASTHO) and National Association of County and City Health Officials (NACCHO) grant awards.

INNOVATION:

- Lifestyle Balance Diabetes Prevention Program is an evidenced based program implemented in the community setting and has been shown to decrease participants' body weight by 10 percent, as well as significantly reduce risk for developing diabetes.
- School Health Initiative aims to support healthy eating and physical activity among children as a strategy for chronic disease prevention.
- Agreement through a Memorandum of Understanding (MOU) with DC Office of the State Superintendent of Education (OSSE) to implement prevention strategies related to nutrition and Physical Education/Physical Activity (PE/PA).

Physical Activity, Nutrition, and Obesity Prevention

More than five in ten adults living in the District (55 percent) are overweight or obese. Three of the leading causes of death (heart disease, diabetes, and stroke) are directly related to the influence of poor diet, physical inactivity, and excess weight, leading to more DC residents dying from obesity-related chronic disease than from HIV/AIDS, cancer, accidents, and assault/homicide combined.

Addressing the Obesity Epidemic through Policy and Programs

POLICY:

- The FEED DC Act
- The Healthy Schools Act
- Workplace Wellness Act
- Healthy Tots Act (pending)

PROGRAMS:

Food Access

- Healthy Corners Initiative partners with DC Central Kitchen, delivering fresh produce and healthy snacks to corners stores in targeted Wards.
- DC Fresh Mobile Produce Carts Pilot Program collaborates with Daddy's Corner (a local non-profit) to retrofit three electric motorized carts to sell fresh produce in high foot traffic areas, in targeting Wards.

Physical Activity

- Faith-based Initiative to Promote Healthy Eating and Active Living.
- DC Park Prescriptions works with pediatricians and the National Park Service to assess all parks in the District so that doctors can prescribe time in parks as a way to treat and prevent obesity and/or attention deficit.
- 11th Street Bridge Project partners with the DC Office of Planning to rebuild 11th Street Bridge as a recreational destination to increase physical activity opportunities for residents.

Comprehensive Cancer Control

Disparities in access to cancer prevention and screening and early detection, treatment, survivorship, palliative and end-of-life care are substantial in the District of Columbia. The DC DOH Comprehensive Cancer Control Program (CCCP) focuses on the inequitable distribution of these services as a means of reducing the District's overall cancer burden.

ACCESS & OUTREACH:

The District of Columbia is a participant in the Centers for Disease Control and Prevention's Breast and Cervical Cancer Early Detection Program. In DC, the program, known as Project WISH (Women Into Staying Healthy), seeks to increase the delivery of breast and cervical cancer screening and early detection services, by creating a demand for and enhancing access to quality, culturally relevant services for eligible women.

The program provides:

- Free clinical breast exams, mammograms, Pap tests to eligible women;
- Follow up tests and case management if results are abnormal;
- Transportation support to and from exams is provided;
- Translation services provided upon request;
- Annual and rescreening reminders sent when due for a mammogram.

Other activities of the Comprehensive Cancer Control Program aim to:

- Increase public awareness of the importance of early detection and healthy lifestyle behaviors that reduce cancer risk.
- Increase cancer screening and rescreening rates; especially for colorectal and breast cancers.
- Educate survivors and caregivers about available resources to improve survivorship including treatment summaries, survivorship planning, psychological support and clinical trials.
- Collaborate and provide technical assistance to community-based programs providing culturally relevant, evidenced-based interventions.
- Support policy, environmental, and systems change interventions that improve access to prevention, screening, treatment, and survivorship care.

COLLABORATION:

- Partnership with the DC Cancer Action Partnership (DCCAP); a volunteer partnership composed of cancer and chronic disease stakeholders across the cancer continuum. The DCCAP is actively engaged in implementation of the DC Cancer Control Plan 2013-2018 as a means of addressing the cancer burden among the uninsured, underinsured, and/or low income District residents.
- The District of Columbia has integrated its cancer programs including the DC Cancer Registry, Project WISH, the Comprehensive Cancer Control Program and the Cancer Management and

Leadership Program into the Cancer Division within the Bureau of Cancer and Chronic Disease. This integration allows for shared resources and easier access to data to reduce cancer incidence and mortality among DC residents.

- Maintain collaborations with and support of the cancer centers and community based organizations within the District, including community and faith-based organizations and hospitals that provide cancer education, screenings, treatment, and referral/resource services to the District's culturally diverse, underserved populations.
- The Comprehensive Cancer Control Program collaborates with Coordinated Chronic Disease Program, the Tobacco Control Program and the Cardiovascular Disease and Diabetes Program to implement programs, policy and environmental systems change interventions that address the intersection of cancer and chronic disease.

INNOVATION:

- Multicultural Screening Guideline cards have been developed in English, Spanish, Mandarin, Vietnamese, Amharic, French and Arabic. These cards provide linguistically appropriate screening guideline information for men and women from diverse communities in the District.
- Know Your Facts program provides a format for District families to capture familial cancer histories as a means of exploring personal risk, informing screening initiation/intervals and determining if genetic testing and counseling is appropriate.
- Mammography Surveillance System captures mammography screening and outcome data on women participating in screening at Capital Breast Care Center and Howard University Hospitals.
- Care Integration Project provides a bi-directional portal that links community outreach and education partners with clinical service delivery centers. Individuals who are enrolled in the program will participate in a comprehensive intake and will receive referrals for mammography screening, diabetes prevention, chronic disease self-management and smoking cessation as needed.
- DC Goes Pink mammography reminder system was created in 2013 to provide annual automated reminders for mammography screening.
- The District's 2nd Cancer Plan covering 2013-2015 was published in 2013. The plan serves as a "blueprint to reduce the number of new cases of cancer, the number of cancer-caused deaths and to improve the quality of life for cancer survivors in the Nation's Capital."
- Through District funds, the CCCP supports the District's Screen for Life colorectal cancer screening program and Men Take 10 prostate cancer informed decision-making and screening programs operated by Howard University Cancer Center.

METHODS FOR MORTALITY REPORT

This report presents 2008 to 2012 District of Columbia death counts and death rates according to a number of demographic and medical characteristics. Data from this report are based on information from all resident death certificates filed in the District of Columbia and in other states. For instance, information from a death certificate for a DC resident who died in the state of Maryland is included in this report. Cause-of-death statistics presented in this report are classified in accordance with the *International Classification of Diseases Tenth Revision* (ICD-10; World Health Organization. 2008 ed. 2009). In addition, the National Center for Health Statistics (NCHS) publishes updates to tabulation lists for ICD-10 cause-of-death ranking in Instruction Manual, Part 9; this report includes the *List of 113 Selected Causes of Death*, used for deaths of all ages.

Measures of mortality in this report include the number of deaths, rates (e.g., crude, age-specific, and age-adjusted death rates), and rate changes over the five-year period (2008 to 2012). Additional statistics related to premature death (e.g., number of deaths before age 70 years and Years of Potential Life Lost before age 70 years; YPLL) were presented for 2012 mortality data. The population statistics used to calculate death rates shown in this report were produced under a collaborative arrangement with the D.C. Office of Planning (OP), State Data Center and the U.S. Census Bureau and are based on counts for the 2010 census and 2008-2012 annual estimates from the American Community Survey. Reflecting the new guidelines issued in 1997 “Revisions of the Standards for Classification of Federal Data on Race and Ethnicity,” issued by the Office of Management and Budget (OMB), the 2010 Census included an option for individuals to report more than one race as appropriate for themselves and household members. In addition, data shown by race include persons of Hispanic and non-Hispanic origin and are included in the totals for each race group—white and black—according to the decedent’s race as reported on the death certificate.

This report includes GIS maps with shading to indicate the different rates of deaths in 2012 by Ward for the ten leading causes of death. Each map legend shows four classes of mortality rates of the population by cause of death that were determined using the ArcGIS “natural breaks” algorithm, often called Jenks’ optimization, which automatically clusters like values together. Not all of the maps use the same colors to represent the same quantities. Readers should be aware of this when comparing the maps with one another.

Mortality data in this report can be used to monitor and evaluate the health status of the District of Columbia. Mortality statistics are important for understanding trends and causes of death, as well as motivation for public health initiatives to reduce morbidity and mortality. Data in this report may be used to identify a segment of the DC population at greatest risk of death from specific diseases and injuries. Differences in death rates among racial and ethnic groups, for example, may reflect group differences in factors such as socioeconomic status, access to medical care, and the prevalence of risks specific to a particular group.

MORTALITY TRENDS, 2008 to 2012

This section depicts 2008 to 2012 District of Columbia mortality data from the DOH Vital Records Division, with supplementary analyses and figures for the most recent year (2012). These data provide information on the total number and rates of death among DC residents by age group, age-adjusted mortality by sex and race/ethnicity, and crude death rates by ward of residence. In subsequent sections of the report, more details will be provided about mortality patterns among residents including the number of deaths and age-adjusted death rates by leading cause of death.

Table 3. Crude Mortality Rates by Age Group: District of Columbia Residents, 2008-2012

Age Group	2008	2009	2010	2011	2012	2008-2012 Pct Change
	Rate per 100,000 Population					
0-4	325.1	253.1	249.5	207.0	210.2	-35.3%
5-14	31.5	24.2	11.7	5.7	14.7	-53.2%
15-24	107.0	86.4	75.3	88.3	69.3	-35.2%
25-34	126.6	111.8	90.2	86.3	69.1	-45.4%
35-44	290.6	253.3	213.7	188.3	191.6	-34.1%
45-54	706.2	665.1	659.4	594.4	565.9	-19.9%
55-64	1,230.0	1,097.2	1,163.4	1,170.6	1,119.5	-9.0%
65-74	2,134.1	2,093.4	2,055.5	1,898.8	1,957.1	-8.3%
75-84	4,777.9	4,541.2	4,670.4	4,419.2	4,284.3	-10.3%
85+	13,006.9	12,527.1	11,314.0	12,050.4	13,630.2	4.8%
Total	868.4	803.3	772.6	741.4	735.1	-15.4%

Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012

The overall crude mortality rate in the District has decreased 15.4 percent from 2008 to 2012, with the highest decline in mortality rate observed among decedents aged 5 to 14 years (53.2 percent decrease). From 2008 to 2012, age-specific death rates have declined within each age group, except for decedents 85 and older (4.8 percent increase).

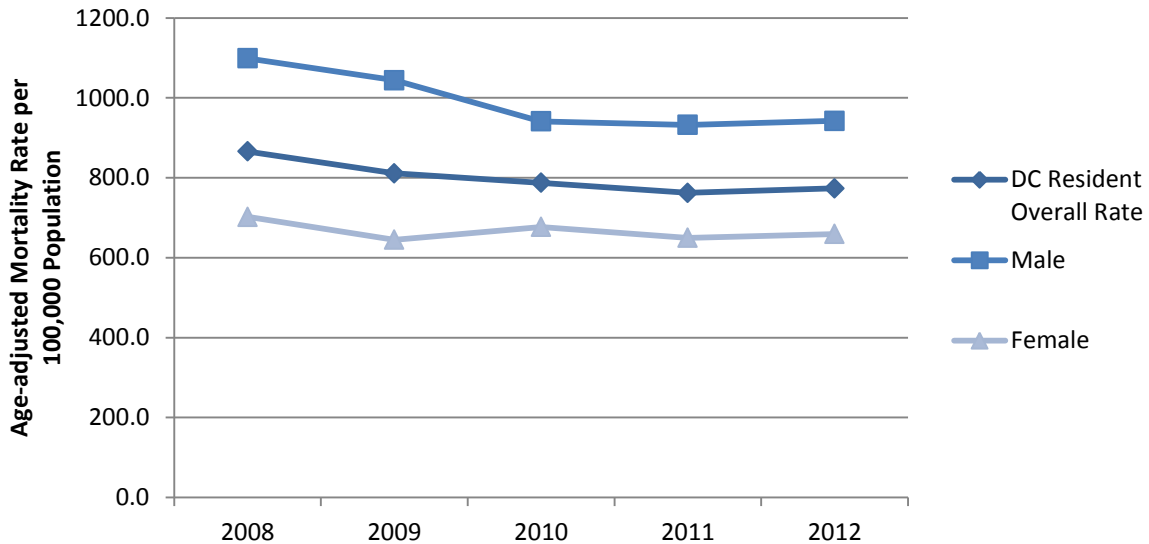
Table 4. Number of Deaths by Age Group: District of Columbia Residents, 2008-2012

Age Group	2008	2009	2010	2011	2012
	Rate per 100,000 Population				
0-4	119	94	82	75	82
5-14	18	14	6	3	8
15-24	96	79	78	89	69
25-34	136	126	114	115	96
35-44	250	216	174	156	164
45-54	550	522	497	448	428
55-64	805	731	748	785	756
65-74	790	792	771	717	780
75-84	1,109	1,029	992	961	964

Age Group	2008	2009	2010	2011	2012
	Rate per 100,000 Population				
85+	1,251	1,214	1,208	1,233	1,301
Total	5,124	4,817	4,670	4,582	4,648

Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012

Figure 1. Trends in Age-Adjusted Mortality by Sex: District of Columbia Residents, 2008-2012

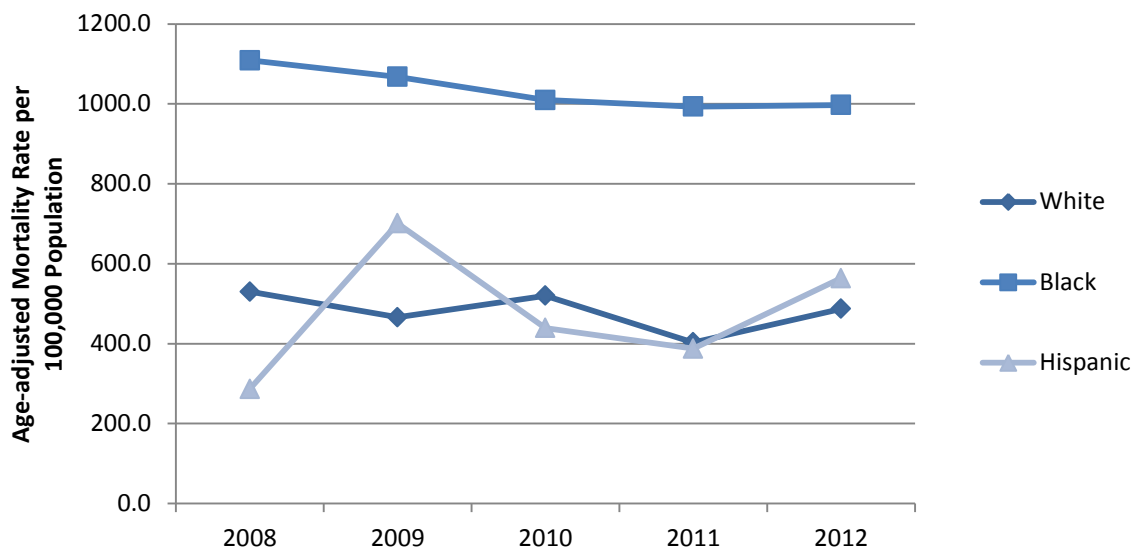


Age-Adjusted Mortality Rate (Per 100,000 Population)	2008	2009	2010	2011	2012	2008-2012 Percent Change
DC Resident Overall Rate	865.7	810.9	787.4	762.4	758.0	-12.4%
Male	1,099.0	1,044.2	941.4	932.3	942.4	-14.2%
Female	702.0	645.0	677.1	649.7	659.2	-6.1%

Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012

The age-adjusted mortality rate has decreased 12.4 percent from 2008 to 2012; 14.2 percent among males and 6.1 percent among females (Figure 1).

Figure 2. Trends in Age-Adjusted Mortality by Race/Ethnicity: District of Columbia Residents, 2008-2012



Age-Adjusted Mortality Rate (Per 100,000 Population)	2008	2009	2010	2011	2012	2008-2012 Percent Change
White	530.0	466.1	519.9	403.3	487.2	-8.1%
Black	1,108.9	1,067.7	1,009.5	993.4	997.2	-10.1%
Hispanic	286.7	701.1	439.1	387.4	563.8	96.6%

Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012

From 2008 to 2012, the age-adjusted mortality rate among blacks/African Americans and whites decreased 10.1 percent and 8.1 percent, respectively (Figure 2).

Rates for Hispanic or Latino residents have fluctuated in the past 5 years, with the lowest rate of 286.7 per 100,000 in 2008 and highest rate of 701.1 per 100,000 in 2009 (Figure 2).

Table 5. Crude Mortality Rates by Ward: District of Columbia Residents, 2008-2012

Ward	2008	2009	2010	2011	2012	2008-2012 Percent Change
	Rate per 100,000 Population					
1	604.1	548.7	509.1	437.9	482.8	-20.1%
2	709.6	427.3	350.1	367.4	358.1	-49.5%
3	658.4	543.9	572.5	531.5	534.0	-18.9%
4	1,171.1	1,017.6	953.8	900.4	926.5	-20.9%
5	1,061.3	1,333.0	1,167.4	1,148.8	1,178.0	11.0%
6	672.4	623.1	681.3	658.5	707.8	5.3%
7	1,155.3	1,065.6	1,115.6	1,159.7	1,098.0	-5.0%
8	750.6	791.9	846.6	833.2	859.9	14.6%

Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012

The crude mortality rate in five of the eight wards declined from 2008 to 2012. Declines were observed in Wards 1, 2, 3, 4, and 7, with the largest percent decrease in Ward 2 (49.5 percent).

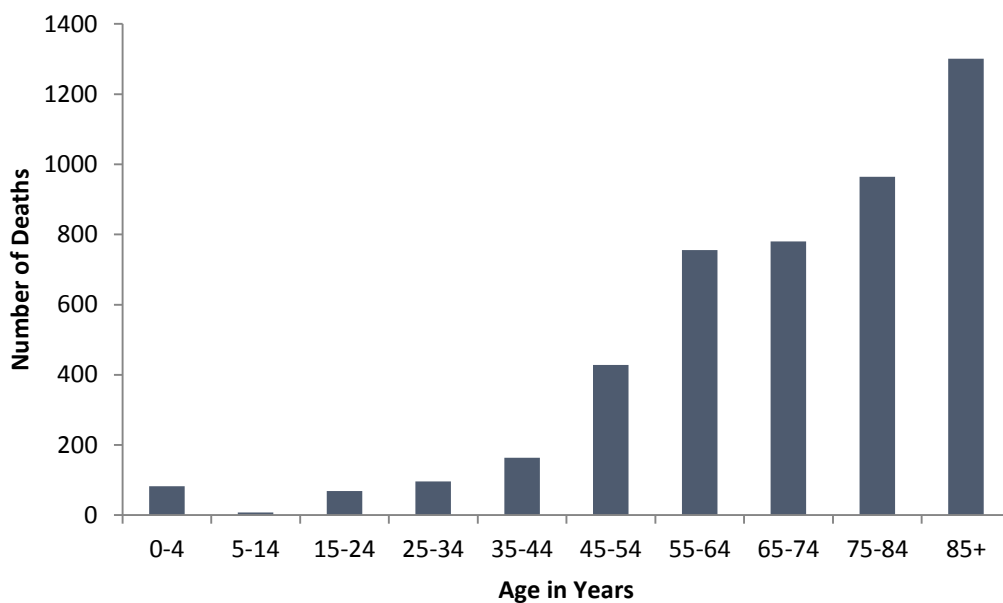
Wards 5, 6, and 8 saw increases in crude mortality rates, with the highest increase for Ward 8 (14.6 percent) over the five-year period.

2012 Mortality by Age, Sex, and Race Breakdown

In 2012, there were 4,648 deaths to residents of the District, 2,260 were males and 2,388 were females (Table 9). Additionally, of the 4,648 total deaths, 3,568 were blacks/African Americans and 980 were whites (Table 10).

Figure 3 shows the age distribution of the total number of deaths in the District of Columbia in 2012. In general, the number of deaths increased with age, and the greatest number of deaths occurred among residents aged 85 years and older. Infant deaths (74) are included in the age group 0-4 years and exceeded the number of deaths to decedents aged 5-14 years and 15-24 years, but not decedents aged 25-34 years.

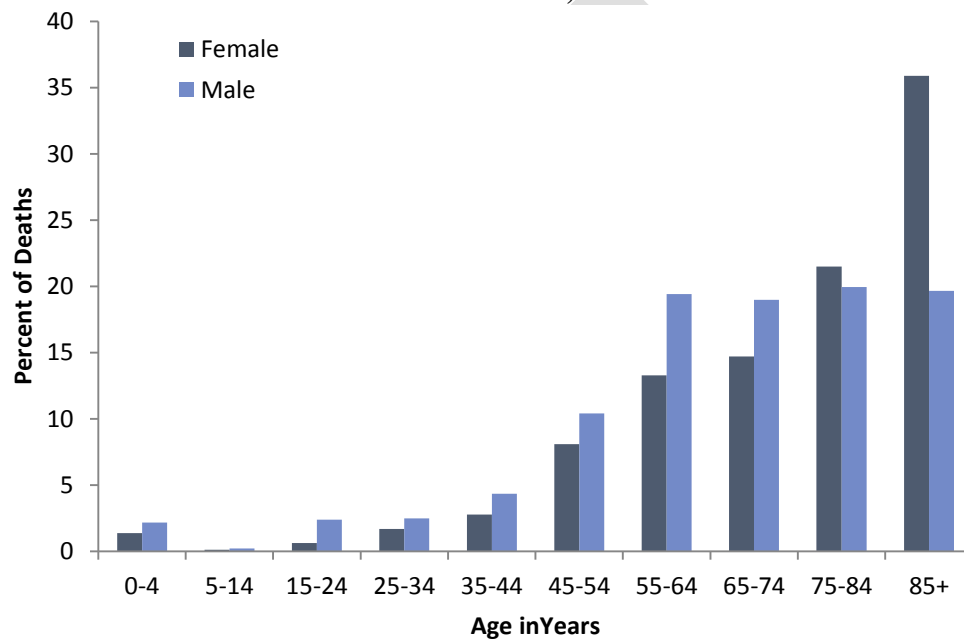
Figure 3. Age Distribution of Resident Deaths in the District of Columbia, 2012



Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012

Figure 4 shows percentages of male and female resident deaths, respectively, for selected age groups in the District in 2012. There was a greater proportion of deaths to males than females for each age group from ages 0 to 74 years (there were 3 female and 5 male deaths at age 5-14 years, 0.13 percent and 0.22 percent, respectively), but a greater percent of females than males in the age groups 75-84 years and 85+ years. The percentage of deaths to males increases with age, and then plateaus from age 55-64 years on, whereas the age of females at death continuously increases with age, sharply rising among the 85+ years group.

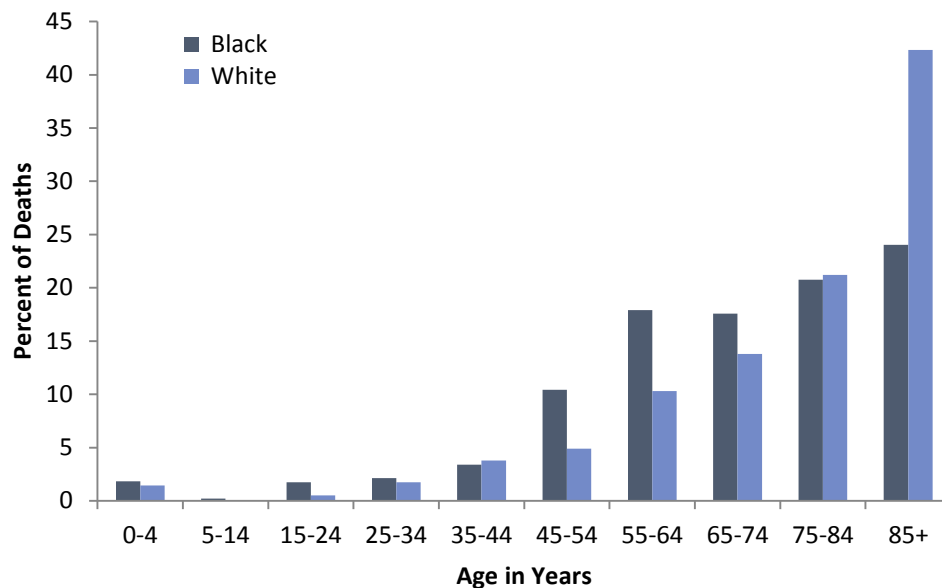
**Figure 4. Percent of Female and Male Resident Deaths per Age Group:
District of Columbia, 2012**



Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012

Figure 5 shows the respective percentages of black/African American and white deaths by age group in the District in 2012. The percent of deaths to blacks/African Americans and whites were similar for each age group from 0 to 44 years. However, 45 percent more deaths occurred prematurely among blacks/African Americans between ages 45 and 74 years compared to whites, 46 percent and 29 percent, respectively. Moreover, 33 percent fewer deaths occurred at older ages, 75 years and older, among blacks/African Americans (45 percent) compared to whites (63 percent).

Figure 5. Percent of Black/African American and White Resident Deaths per Age Group: District of Columbia, 2012



Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012

LEADING CAUSES OF DEATH

Chronic or non-communicable diseases have been rising as the leading causes of death and disability in industrialized countries, replacing infectious diseases, since the 20th century. In 2012, the 10 leading causes of death in the District of Columbia, in ranked order, were heart disease, cancer, cerebrovascular disease (stroke), accidents, diabetes, chronic lower respiratory diseases, Alzheimer's disease, human immunodeficiency virus and acquired immune deficiency syndrome (HIV/AIDS), assault (homicide), and Influenza/Pneumonia; these conditions accounted for 74.1 percent of deaths among DC residents (Table 6 and Figure 6). However, the majority of deaths (55.6 percent) were attributable to just the top three leading causes. Cancer and heart disease are also the top two leading causes of premature death among District residents aged 45 to 69 years (Table 12).

The overall crude and age-adjusted death rates for DC in 2012 were 735.1 per 100,000 population and 758.0 per 100,000 U.S. 2000 standard population, respectively (Table 6; Technical Note, Computing Rates). In 2012, the overall crude death rate for the United States was 810.2 per 100,000 population, with an age-adjusted rate of 732.8 per 100,000 population. The 10 leading causes of death in the District were similar to the U.S., but the rank order differed. In 2012, HIV/AIDS and assault (homicide) were leading causes of death for the District, whereas Nephritis, Nephrotic Syndrome, and Nephrosis, and suicide were not among the leading causes of death in the District, but were leading causes nationally.

**Table 6. Age-Adjusted Death Rates by Ten Leading Causes of Death:
District of Columbia, 2012 and United States, 2012**

District of Columbia		United States	
Cause of Death ¹	Rate*	Cause of Death ¹	Rate*
All Causes	758.0	All Causes	732.8
1. Heart Disease	212.5	1. Heart Disease	170.5
2. Cancer	178.6	2. Cancer	166.5
3. Cerebrovascular Disease (Stroke)	33.7	3. Chronic Lower Respiratory Diseases	41.5
4. Accidents	31.1	4. Cerebrovascular Disease (Stroke)	36.9
5. Diabetes	23.9	5. Accidents	39.1
6. Chronic Lower Respiratory Diseases	23.5	6. Alzheimer's Disease	23.8
7. Alzheimer's Disease	20.5	7. Diabetes	21.2
8. HIV/AIDS	15.4	8. Influenza and Pneumonia	14.4
9. Assault/Homicide	11.6	9. Nephritis, Nephrotic Syndrome and Nephrosis	13.1
10. Influenza and Pneumonia	12.1	10. Suicide	12.6

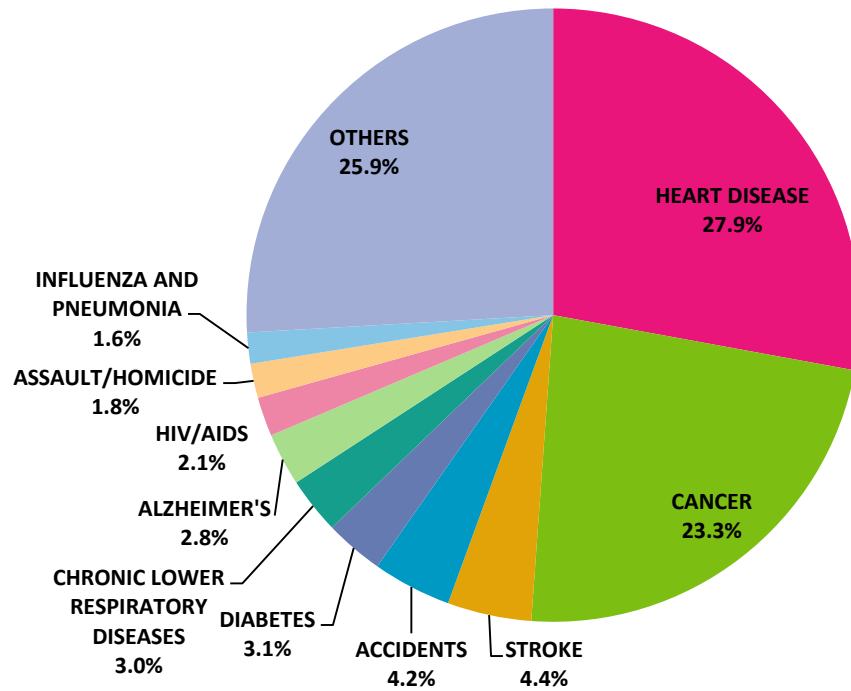
*Age-adjusted rates per 100,000 were standardized using the 2000 U.S. standard million population, and based on 2012 DC population estimates.

¹Rank based on the number of deaths.

Sources: (1) Data Management and Analysis Division, Center for Policy, Planning and Evaluation, DC Department of Health.

(2) CDC/NCHS, National Vital Statistics System, Mortality. Data Brief 168: Mortality in the United States, 2012.

Figure 6. Ten Leading Causes of Death: District of Columbia, 2012



Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012

Table 7. Number of Deaths and Age-Adjusted Mortality Rates for Ten Leading Causes of Death: District of Columbia Residents, 2008-2012

Rank*	2008 N=5,124	2009 N=4,817	2010 N=4,670	2011 N=4,582	2012 N=4,648
#1	Heart Disease 1,389 233 per 100,000	Heart Disease 1,363 231 per 100,000	Heart Disease 1,300 221 per 100,000	Heart Disease 1,167 194 per 100,000	Heart Disease 1,296 212 per 100,000
#2	Cancer 1,135 192 per 100,000	Cancer 1,125 190 per 100,000	Cancer 1,035 177 per 100,000	Cancer 1,068 180 per 100,000	Cancer 1,081 179 per 100,000
#3	Cerebrovascular Disease 211 35 per 100,000	Unintentional Injury 213 35 per 100,000	Unintentional Injury 211 35 per 100,000	Cerebrovascular Disease 209 34 per 100,000	Cerebrovascular Disease 206 34 per 100,000
#4	Unintentional Injury 172 29 per 100,000	Cerebrovascular Disease 202 34 per 100,000	Cerebrovascular Disease 194 32 per 100,000	Unintentional Injury 183 29 per 100,000	Unintentional Injury 193 31 per 100,000
#5	Homicide/ Assault 170 29 per 100,000	HIV/AIDS 144 24 per 100,000	Chronic Lower Respiratory Disease 146 26 per 100,000	Chronic Lower Respiratory Disease 151 25 per 100,000	Diabetes 144 24 per 100,000
#6	Diabetes 164 28 per 100,000	Chronic Lower Respiratory Disease 139 24 per 100,000	Diabetes 145 25 per 100,000	Diabetes 150 26 per 100,000	Chronic Lower Respiratory Disease 139 24 per 100,000
#7	HIV/AIDS 164 27 per 100,000	Diabetes 137 23 per 100,000	HIV/AIDS 121 20 per 100,000	Alzheimer's Disease 120 20 per 100,000	Alzheimer's Disease 129 20 per 100,000
#8	Chronic Lower Respiratory Disease 133 22 per 100,000	Homicide/ Assault 135 21 per 100,000	Homicide/ Assault 118 17 per 100,000	Homicide/ Assault 109 16 per 100,000	HIV/AIDS 96 15 per 100,000
#9	Alzheimer's Disease 119 19 per 100,000	Alzheimer's Disease 95 16 per 100,000	Alzheimer's Disease 114 19 per 100,000	Influenza and Pneumonia 97 16 per 100,000	Homicide/ Assault 84 12 per 100,000
#10	Influenza and Pneumonia 114 19 per 100,000	Septicemia 88 per 100,000	Septicemia 90 15.3 per 100,000	HIV/AIDS 94 15 per 100,000	Influenza and Pneumonia 76 12 per 100,000

Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012

*Ranks are based on numbers of death. Colors correspond to specific causes of death and help show trends over time.

Table 7 shows deaths due to Heart Disease and Cancer have accounted for 50 percent of deaths in the District in the last 5 years (2008 to 2012). Heart Disease and Cancer have consistently ranked as number 1 and 2 causes of death, respectively, in the District with fairly steady declines in the last 5 years.

Table 8. Leading Causes of Death by Average Age: District of Columbia Residents, 2012

Cause of Death¹	Number	Average Age in years	Youngest Decedent (Age in Years)	Oldest Decedent (Age in Years)
1. Heart Disease	1296	75.6	19	103
2. Cancer	1081	70.0	3	100
3. Stroke	206	76.8	8	106
4. Accidents	193	56.0	1	97
5. Diabetes	144	72.3	27	97
6. Chronic Lower Respiratory Disease	139	75.5	9	98
7. Alzheimer's Disease	129	87.8	56	102
8. HIV/AIDS	96	50.5	17	80
9. Homicide/ Assault	84	29.3	0	69
10. Influenza & Pneumonia	76	75.2	0	112
All Other Causes	1204	67.3	0	107

¹Rank based on number of deaths from the list of 113 Selected Causes of Death.

Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012.

Table 8 shows the number of deaths, average age, and age range of decedents among the 10 leading causes of death. Deaths due to Alzheimer's disease were among the oldest decedents who died at 87.8 years on average. In contrast, assault (homicide) was the leading cause of death with the youngest average aged decedents, at 29.3 years (Table 8).

**Table 9. Ten Leading Causes of Death and Death Rates by Sex:
District of Columbia Residents, 2012**

Female			Male		
Cause of Death	Number	Crude Rate*	Cause of Death	Number	Crude Rate*
Total	2388	716.5	Total	2260	755.8
1. Heart Disease	654	196.2	1. Heart Disease	642	214.7
2. Cancer	556	166.8	2. Cancer	525	175.6
3. Stroke	138	41.4	3. Accidents	116	38.8
4. Alzheimer's Disease	96	28.8	4. Assault/Homicide	74	24.8
5. Diabetes	82	24.6	5. Stroke	68	22.7
6. Accidents	77	23.1	5. Chronic Lower Respiratory Diseases	68	22.7
7. Chronic Lower Respiratory Diseases	71	21.3	5. HIV/AIDS	68	22.7
8. Influenza and Pneumonia	44	13.2	8. Diabetes	62	20.7
9. Septicemia	37	11.1	9. Essential Hypertension	37	12.4
10. Essential Hypertension	32	9.6	10. Chronic Liver Disease and Cirrhosis	34	11.4
All Other Causes	601		All Other Causes	566	

*Crude death rates are per 100,000 population based on 2012 population estimates.

¹Rank based on number of deaths from the list of 113 Selected Causes of Death.

Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012.

In 2012, the crude death rate for males (755.6 per 100,000 population) was higher than for females (716.5 per 100,000 population; Table 9). Heart disease and cancer were ranked number one and two among the leading causes of death for males, 214.7 per 100,000 population and 175.6 per 100,000 population, respectively. Similarly, the rates of heart disease and cancer deaths among women were 196.2 per 100,000 population and 166.8 per 100,000 population, respectively. Stroke, chronic lower respiratory disease, and HIV/AIDS tied for the fifth leading cause of death among males in DC. Alzheimer's disease, Influenza and Pneumonia and septicemia were among the leading causes of death for women but did not rank in the top ten causes for men in the District in 2012. However, assault (homicide), HIV/AIDS, and chronic liver disease and cirrhosis were leading causes of death among men but not women in 2012.

**Table 10. Ten Leading Causes of Death and Death Rates by Race:
District of Columbia Residents, 2012**

Black/African American			White		
Causes of Death ¹	Number	Rate*	Causes of Death ¹	Number	Rate*
Total	3568	1127.4	Total	980	361.2
Heart Disease	1045	330.2	Cancer	253	93.2
Cancer	800	252.8	Heart Disease	234	86.2
Stroke	158	49.9	Accidents	59	21.7
Diabetes	131	41.4	Alzheimer's Disease	47	17.3
Accidents	128	40.4	Stroke	45	16.6
Chronic Lower Respiratory Diseases	99	31.3	Chronic Lower Respiratory Diseases	35	12.9
HIV/AIDS	86	27.2	Chronic Liver Disease and Cirrhosis	22	8.1
Assault/Homicide	83	26.2	Influenza and Pneumonia	15	5.5
Alzheimer's Disease	78	24.6	Suicide	13	4.8
Septicemia	62	19.6	Other Diseases of Respiratory System	12	4.4
All Other Causes	898		All Other Causes	245	

The totals do not add to total number of 2012 DC deaths because all other race groups are not included in the table.

*Crude death rates per 100,000 based on 2012 population estimates prepared by State Data Center, DC Office of Planning.

¹ Rank based on number of deaths from the list of 113 Selected Causes of Death.

Source: Data Management and Analysis Division, Center for Policy, Planning and Evaluation, DC Department of Health.

Table 10 shows the crude death rate for blacks/African Americans (1,127.4 per 100,000 population) was significantly higher than for whites (361.2 per 100,000 population). The top two leading causes of death for black/African American residents were heart disease and cancer but for whites, cancer was ahead of heart disease (Table 10). Diabetes, HIV/AIDS, assault/homicide, and septicemia were among the 10 leading causes of death for blacks/African Americans but were not leading causes among whites; while chronic liver disease/cirrhosis, Influenza/Pneumonia, suicide, and other respiratory diseases were leading causes of deaths only among whites. Although accidents and Alzheimer's disease were among the 10 leading causes of death for both race groups, and they ranked higher among whites, the crude mortality rates were higher for blacks/African Americans (40.4 per 100,000 population and 24.6 per 100,000 population, respectively) compared to whites (21.7 per 100,000 population and 17.3 per 100,000 population, respectively).

The distribution of the number of deaths and mortality rates for the 10 leading causes of death in 2012 by Ward are displayed in Table 11. The greatest number of total deaths occurred in Ward 5 which also had the highest rate of deaths from all causes, 889 deaths and 1,178.0 per 100,000 population, respectively. Conversely, Ward 2 had the fewest number of total deaths as well as the lowest rate of deaths from all causes, 269 deaths and 358.1 per 100,000 population, respectively. Figure 7 also presents data for 2012 total deaths and rates of death from all causes by Ward. Further, Ward 7 had the highest rate of deaths for five out of ten of the leading causes of death in the District in 2012: stroke, chronic lower respiratory disease, HIV/AIDS, assault/homicide, and Influenza/Pneumonia. However, Ward 2 had the lowest rate of deaths for five out of ten of the leading causes of death in 2012, including heart disease, cancer, stroke, accidents, and chronic lower respiratory disease.

**Table 11. Number and Crude Rate of Deaths by Ward:
District of Columbia Residents, 2012¹**

Causes of Death²	DC	Ward 1	Ward 2	Ward 3	Ward 4	Ward 5	Ward 6	Ward 7	Ward 8
Total Deaths³	4,648	366	269	429	712	889	561	747	645
Rate per 100,000 pop.	735.1	482.8	358.1	534.0	926.5	1,178.0	709.1	1,098.0	859.9
1. Heart Disease	1,296	101	64	104	178	273	162	209	195
Rate per 100,000 pop.	205.0	133.2	85.2	129.4	231.6	361.7	204.8	307.2	260.0
2. Cancer	1,081	87	76	111	182	197	127	152	146
Rate per 100,000 pop.	171.0	114.8	101.2	138.2	236.8	261.0	160.5	223.4	194.6
3. Stroke	206	19	13	19	33	35	30	32	23
Rate per 100,000 pop.	32.6	25.1	17.3	23.6	42.9	46.4	37.9	47.0	30.7
4. Accidents	193	14	13	21	33	30	26	29	26
Rate per 100,000 pop.	30.5	18.5	17.3	26.1	42.9	39.8	32.9	42.6	34.7
5. Diabetes	144	8	5	1	26	27	15	28	32
Rate per 100,000 pop.	22.8	10.6	6.7	1.2	33.8	35.8	19.0	41.2	42.7
6. Chronic Lower Respiratory Disease	139	11	6	21	26	15	19	28	13
Rate per 100,000 pop.	22.0	14.5	8.0	26.1	33.8	19.9	24.0	41.2	17.3
7. Alzheimer's Disease	129	4	6	30	32	31	11	11	4
Rate per 100,000 pop.	20.4	5.3	8.0	37.3	41.6	41.1	13.9	16.2	5.3
8. HIV/AIDS	96	12	7	2	7	16	11	21	20
Rate per 100,000 pop.	15.2	15.8	9.3	2.5	9.1	21.2	13.9	30.9	26.7
9. Homicide/Assault	84	7	1	0	2	11	8	27	28
Rate per 100,000 pop.	13.3	9.2	1.3	0.0	2.6	14.6	10.1	39.7	37.3
10. Influenza & Pneumonia	76	5	5	7	5	17	11	16	10
Rate per 100,000 pop.	12.0	6.6	6.7	8.7	6.5	22.5	13.9	23.5	13.3
All Other Causes	1,204	98	73	113	188	237	141	194	148

Notes: (1) Crude death rates are per 100,000 population, prepared by State Data Center, DC Office of Planning, based on: 2012 DC population estimates, U.S. Census Bureau; 2008-2012 ACS population estimates by Ward (Appendix 1).

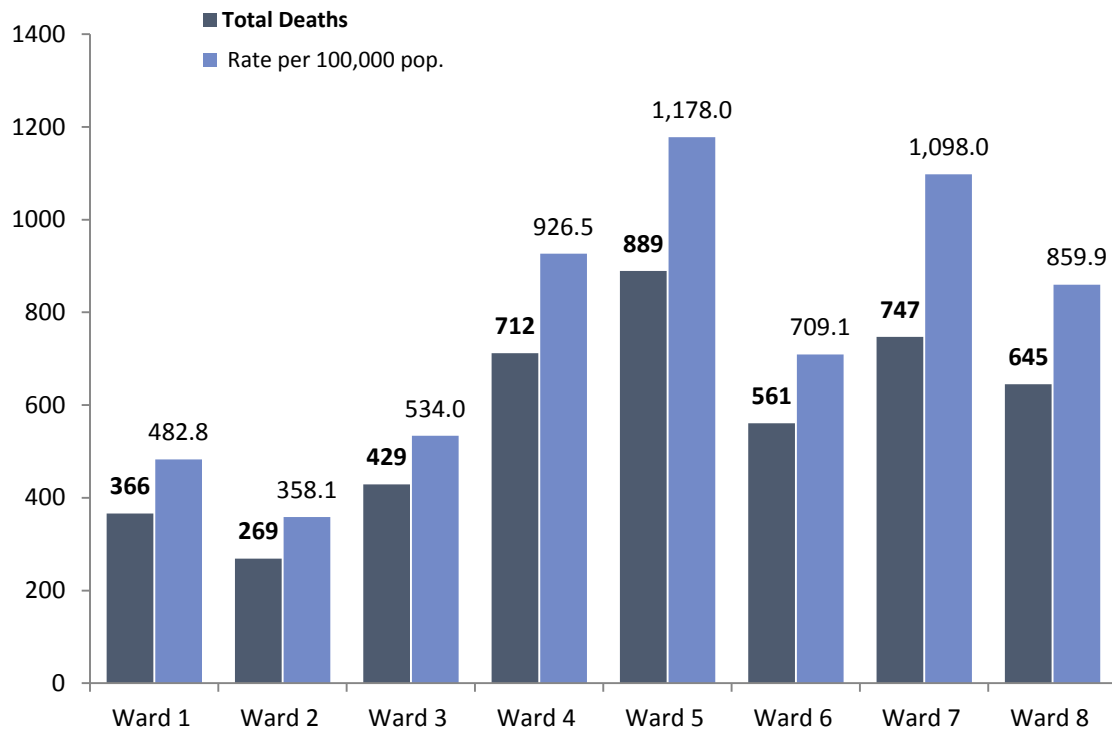
(2) Rank based on number of deaths from the list of 113 Selected Causes of Death.

(3) Total will not add to 4,648 deaths due to unreported wards.

(4) Blue shaded areas show the highest death rates and grey areas show the lowest death rates by ward and disease.

Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012.

**Figure 7. Number and Crude Rate of Deaths by Ward:
District of Columbia Residents, 2012**



Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012.

1. Heart Disease

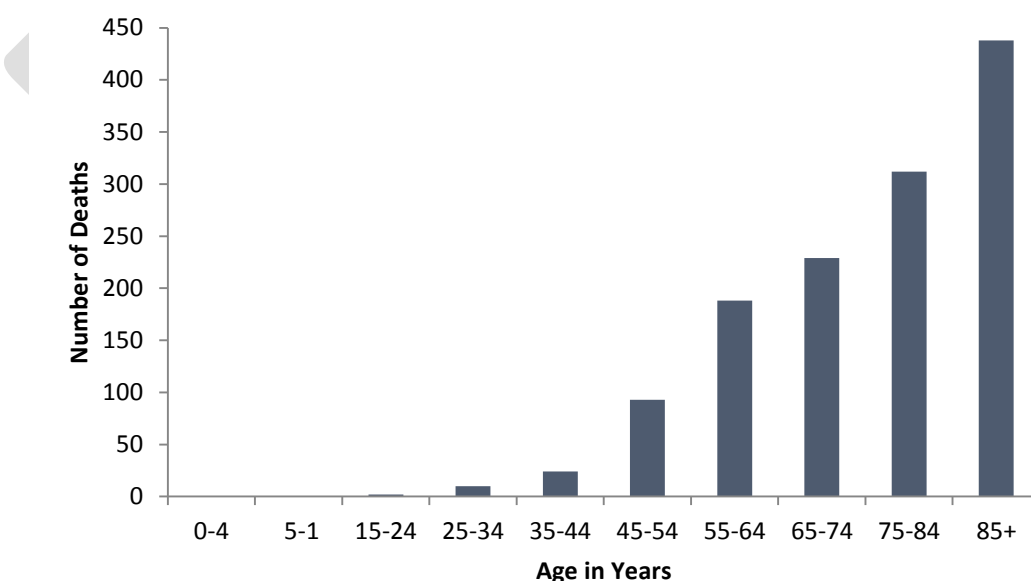
The term "heart disease" refers to several types of heart conditions. The most common type of heart disease in the United States is coronary artery disease (CAD), which affects the blood flow to the heart. CAD is caused by plaque buildup in the walls of the arteries that supply blood to the heart (called coronary arteries) and other parts of the body. Plaque is made up of deposits of cholesterol and other substances in the artery. Plaque buildup causes the inside of the arteries to narrow over time, which could partially or totally block the blood flow. CAD is the main cause of heart attack. A heart attack, also called a myocardial infarction, occurs when a part of the heart muscle doesn't receive enough blood flow. The more time that passes without treatment to restore blood flow, the greater the damage to the heart muscle.

Some of the risk factors for heart disease cannot be controlled, such as age or family history. However, high blood pressure, high cholesterol, and smoking are three key risk factors for heart disease that can be controlled through behavior and lifestyle modification.

In 2012, heart disease was the leading cause of death in the District of Columbia and the United States. Among 4,648 deaths in the District in 2012, 1,296 (27.9 percent) were attributable to heart disease. The 2012 crude mortality rate for heart disease in the District was 205.0 per 100,000 population and the age-adjusted mortality rate was 212.5 per 100,000 population (Table 6 and Table 11). Males had a higher rate of heart disease mortality than females, and blacks/African Americans had a rate of heart disease deaths nearly four times higher than whites—330.2 per 100,000 population and 86.2 per 100,000 population, respectively (Table 10).

Figure 8 illustrates the distribution of ages at death for heart disease mortality. Heart disease deaths increased with increasing age group; the greatest proportion of deaths were to those aged 85+ years (438 deaths, 34 percent), 75-84 years (312 deaths, 24 percent), and 65-74 years (229 deaths, 18 percent).

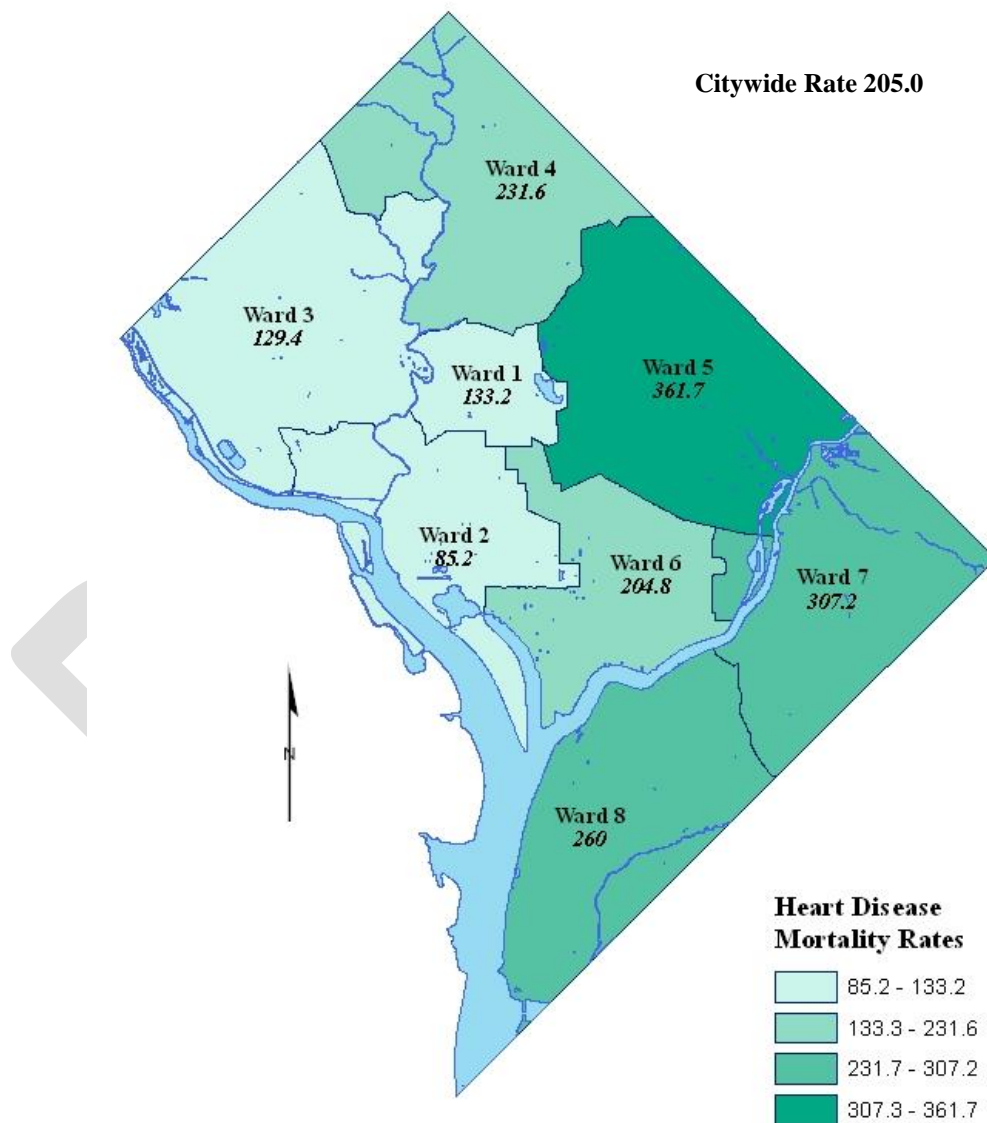
Figure 8. Heart Disease Deaths in the District of Columbia by Age Group, 2012



Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012.

Figure 9 is a map of the District with shading to indicate the different rates of heart disease deaths per 100,000 population in 2012 by Ward. Heart disease deaths were wide spread throughout the District. Ward 5 had the highest crude rate of heart disease death, 361.7 per 100,000, followed by Ward 7, 307.2 per 100,000 population. The lowest crude death rate was in Ward 2 (85.2 per 100,000 population).

**Figure 9. Heart Disease Crude Mortality Rates by Ward:
District of Columbia Residents, 2012**



Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012.

2. Cancer

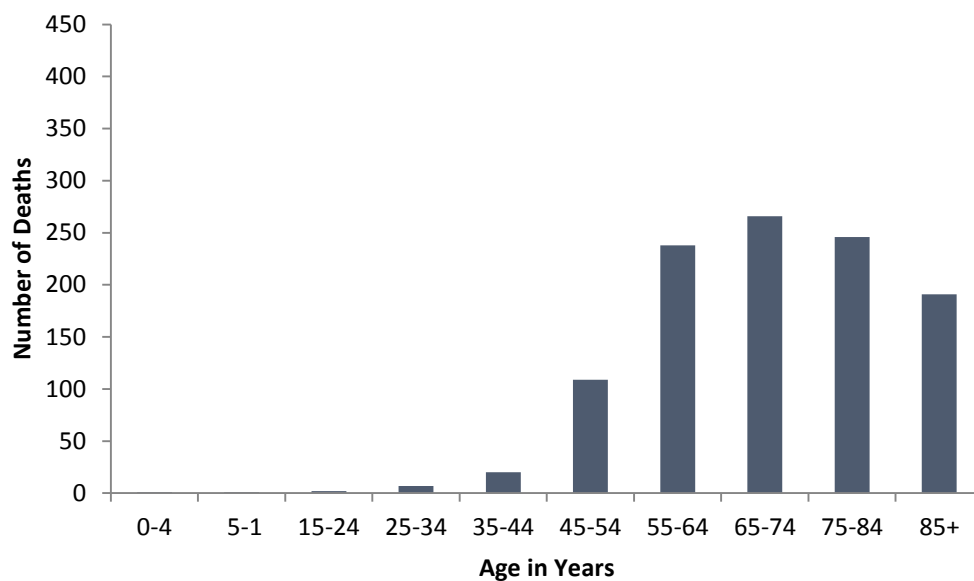
Cancer is a term used for diseases in which abnormal cells divide without control and can invade other tissues. Cancer cells can spread to other parts of the body through the blood and lymph systems. Cancer is not just one disease, but many diseases. There are more than 100 kinds of cancer. For more information, visit the National Cancer Institute's [What Is Cancer?](#)

Research shows that screening for cervical and colorectal cancers as recommended helps prevent these diseases by finding precancerous lesions so they can be treated before they become cancerous. Screening for cervical, colorectal, and breast cancers also helps find these diseases at an early stage, when treatment works best. Vaccines (shots) also help lower cancer risk. The human papillomavirus (HPV) vaccine helps prevent most cervical cancers and several other kinds of cancer, and the hepatitis B vaccine can help lower liver cancer risk. A person's cancer risk can be reduced with healthy choices like avoiding tobacco, limiting alcohol use, protecting your skin from the sun and avoiding indoor tanning, eating a diet rich in fruits and vegetables, keeping a healthy weight, and being physically active.

In 2012, cancer was the second leading cause of death for the District overall and the U.S. There were 1,081 deaths due to cancer in the District in 2012, which was 23.3 percent of the total deaths. The 2012 crude mortality rate for cancer in the District was 171.0 per 100,000 population and the age-adjusted mortality rate was 178.6 per 100,000 population (Table 6 and Table 11). Although, blacks/African Americans had a rate of cancer deaths nearly three times higher than whites—252.8 per 100,000 population compared to 93.2 per 100,000 population—cancer was the leading cause of death among whites, and second leading cause among blacks/African Americans (Table 10). Males had a higher rate of cancer mortality than females.

Like heart disease, in 2012, most cancer deaths were to residents of older ages. However, there were 23.5 percent more cancer deaths between the ages 55-64 years compared to heart disease deaths. Further, the number of cancer deaths increased until ages 65-74 years, then decreased among DC residents aged 75 years and older (Figure 10). There were 238 deaths (22 percent) to residents 55-64 years, 266 deaths (25 percent) to residents 65-74 years, 246 deaths (23 percent) to residents 75-84 years, and 191 deaths (18 percent) of residents greater than 85 years old.

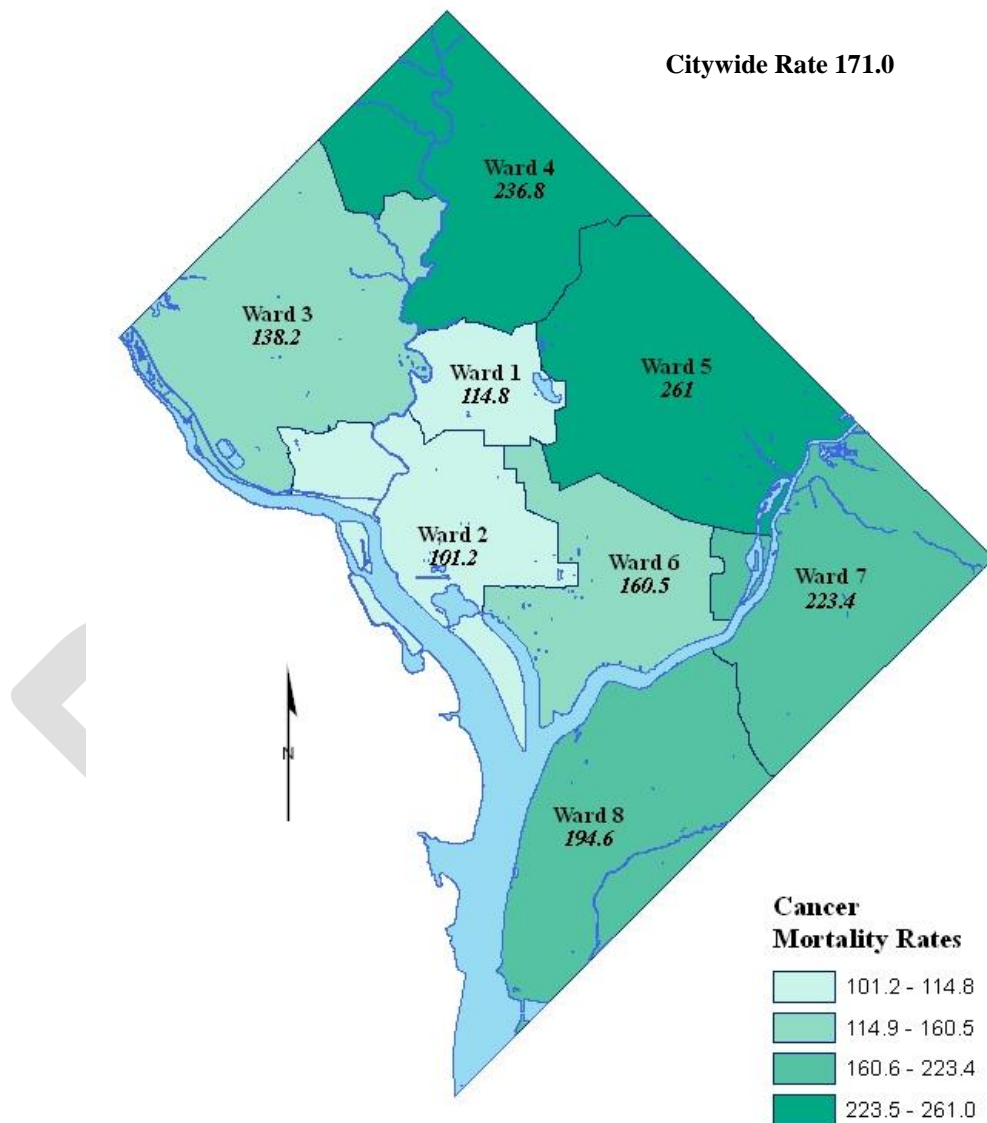
Figure 10. Cancer Deaths in the District of Columbia by Age Group, 2012



Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012.

Figure 11 is a map of the District with shading to indicate the different rates of cancer deaths per 100,000 population in 2012 by Ward. Cancer affects residents in every ward, but Ward 5 had the highest crude rate of cancer death, 261.0 per 100,000, followed by Ward 4, 236.8 per 100,000 population. The lowest crude death rate for cancer was in Ward 2 (101.2 per 100,000 population).

**Figure 11. Cancer Crude Mortality by Ward:
District of Columbia Residents, 2012**



Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012.

3. Cerebrovascular Disease (Stroke)

A stroke is a serious medical condition that requires emergency care. In the event that the flow of blood to the brain is interrupted, brain cells start to die within minutes because they can't get oxygen. This is called a stroke. Sudden bleeding in the brain also can cause a stroke if it damages brain cells. A stroke can cause lasting brain damage, long-term disability, or even death.

Signs of stroke include 1) sudden numbness or weakness in the face, arm, or leg, especially on one side of the body; 2) sudden confusion, trouble speaking, or difficulty understanding speech; 3) sudden trouble seeing in one or both eyes; 4) sudden trouble walking, dizziness, loss of balance, or lack of coordination; and 5) sudden severe headache with no known cause.

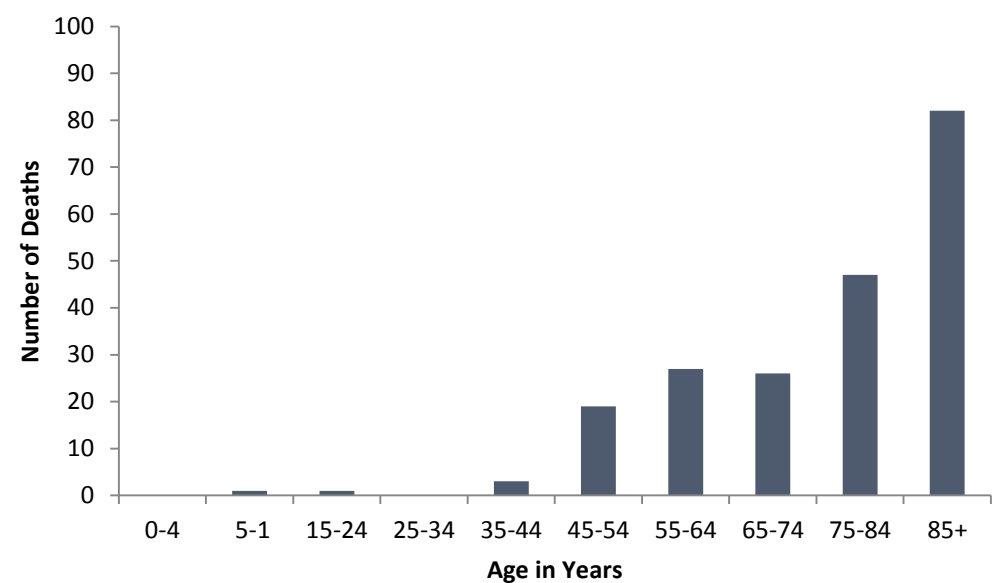
Healthy lifestyle choices including the following can help prevent stroke:

- Eating a healthy diet
- Maintaining a healthy weight
- Getting enough exercise
- Not smoking.
- Limiting alcohol use

In 2012, stroke was the third leading cause of death for the District overall but the fourth leading cause of death in the U.S. There was a much smaller proportion of deaths attributable to stroke (4.4 percent) compared to heart disease and cancer in the District in 2012. The crude mortality rate for stroke was 32.6 per 100,000 population and the age-adjusted mortality rate was 33.7 per 100,000 population (Table 6 and Table 11). Stroke was the third leading cause of death among blacks/African Americans, who had a rate of death three times higher than whites, 49.9 per 100,000 population compared to 16.6 per 100,000 population (Table 10). Additionally, stroke was the third leading cause of death for females, who had a higher stroke mortality rate than males, 41.4 per 100,000 population and 22.7 per 100,000 population, respectively. However, stroke was the fifth leading cause of death among whites as well as males in the District.

The age distribution of stroke deaths mirrors heart disease, with an increasing frequency of deaths at older ages (Figure 12). For instance, approximately 63 percent of stroke deaths occurred to DC residents aged 75 years and older in 2012.

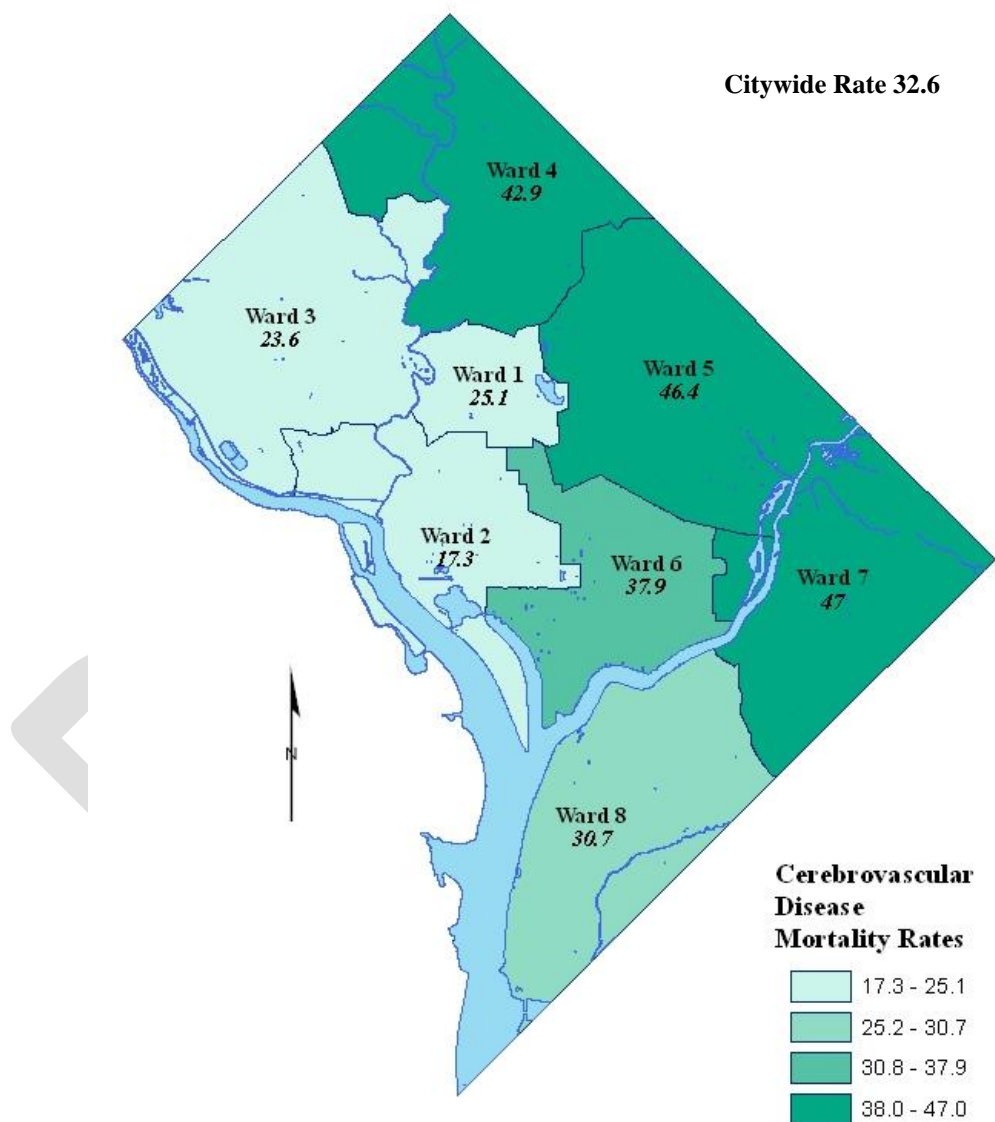
Figure 12. Stroke Deaths in the District of Columbia by Age Group, 2012



Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012.

Figure 13 is a map of the District with shading to indicate the different rates of stroke deaths per 100,000 population in 2012 by Ward. Ward 7 had the highest crude rate of stroke deaths, 47.0 per 100,000, followed closely by Ward 5, 46.4 per 100,000 population, and then by Ward 4, 42.9 per 100,000 population. The lowest crude death rate from stroke was in Ward 2 (17.3 per 100,000 population).

**Figure 13. Cerebrovascular Disease (Stroke) Crude Mortality Rates by Ward:
District of Columbia Residents, 2012**



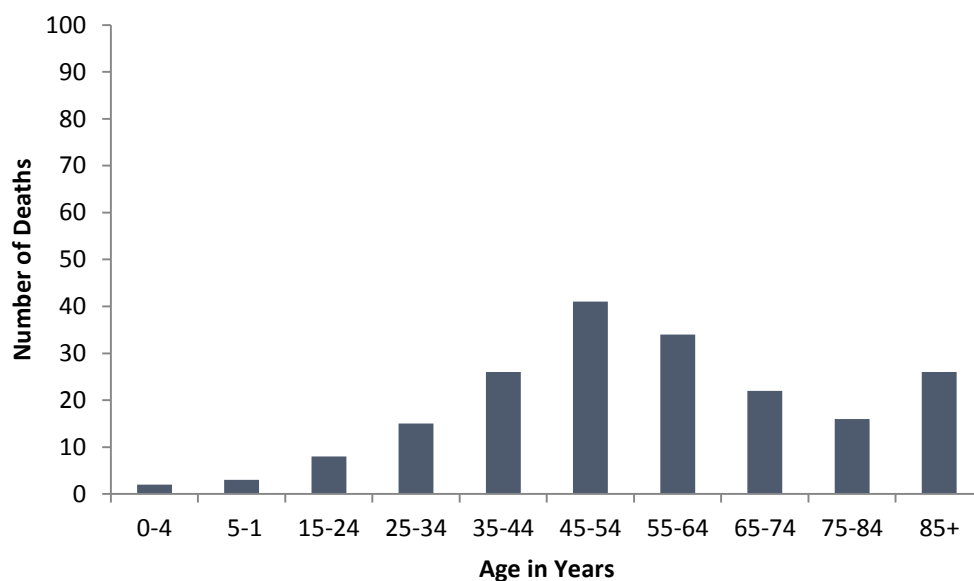
Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012.

4. Accidents

In 2012, accidents were the fourth leading cause of death in the District (Table 6). Although accidents were ranked lower, at fifth, in the 2012 U.S. leading causes of death, the age-adjusted rate of deaths from accidents was higher for the U.S. (39.1 per 100,000 population) compared to the District (31.1 per 100,000 population). DC resident males in 2012 had a higher rate of death from accidents compared to females, 38.8 per 100,000 population and 23.1 per 100,000 population, respectively (Table 9). Accidents ranked fifth among the leading causes of death for blacks/African Americans, who had a rate of death nearly two times higher than whites, 40.4 per 100,000 population compared to 21.7 per 100,000 population (Table 10). However, accidents were ranked higher, the third leading cause of death, among whites.

The age distribution of deaths due to accidents was not comparable to heart disease, cancer, or stroke, with 54 of 193 deaths from accidents (28 percent) occurring at younger ages, before 45 years (Figure 14). Further, 39 percent occurred to DC residents aged 45 to 64 years, leaving 33 percent of deaths due to accidents that occurred in DC in 2012 that were among the elderly adults, aged 65 years and older.

Figure 14. Deaths Due to Accidents in the District of Columbia by Age Group, 2012

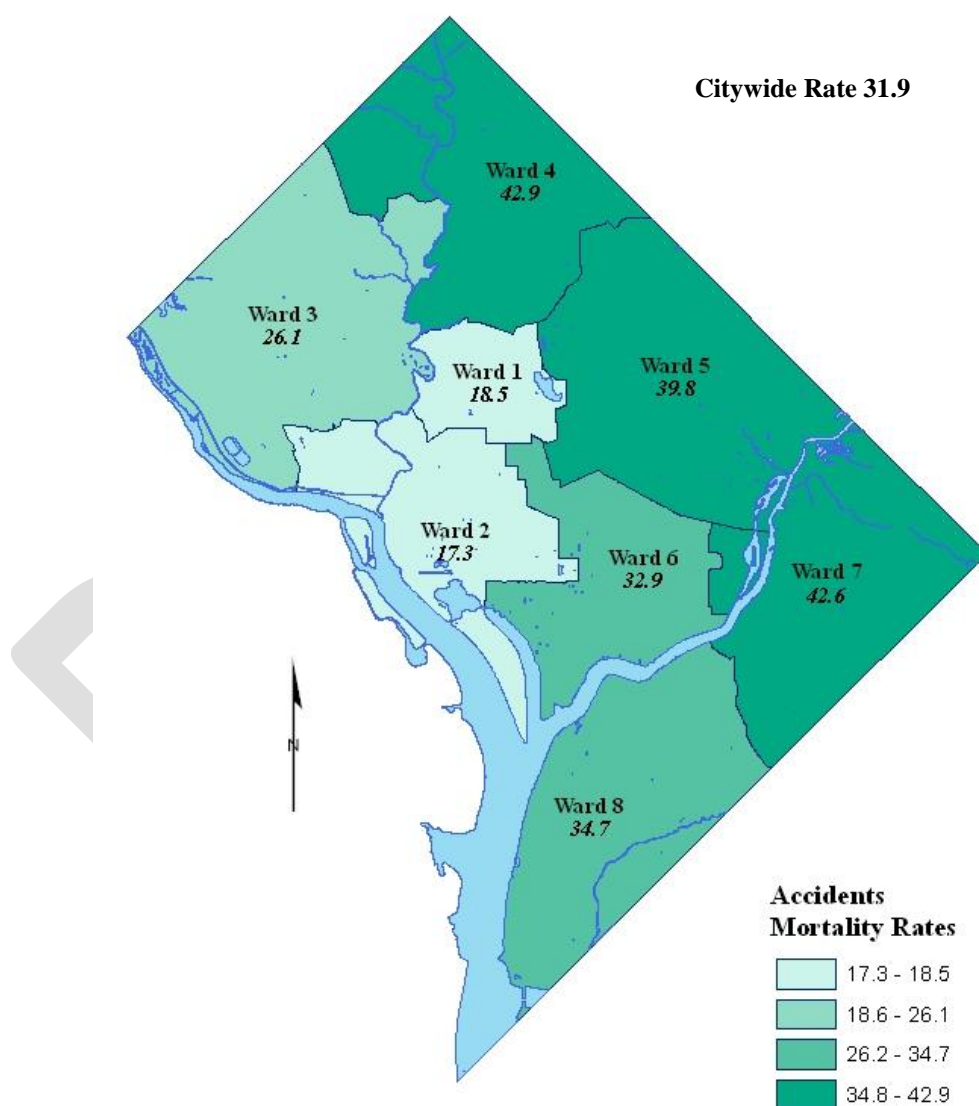


Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012.

A local law firm suggests 10 tips to avoid motor vehicle accidents are: (1) Avoid drinking and driving. (2) Minimize distractions such as reading newspapers or talking on the cell phone when driving. (3) Properly maintain vehicles. (4) Do not encourage aggressive drivers. (5) Leave a safe distance between your cars and others. (6) Maintain a constant speed. (7) Adjust mirrors properly and check the side and rear-view mirrors every 15 seconds. (8) Take defensive driving classes to improve your ability to drive and be better prepared for the unpredictable behavior of other motorists. (9) Proceed with great caution through intersections. (10) Be sufficiently aware of road conditions and be more visible.

Figure 15 is a map of the District with shading to indicate the different rates of deaths due to accidents per 100,000 population in 2012 by Ward. Ward 4 and Ward 7 had the highest crude rates of deaths due to accidents, 42.9 per 100,000 and 42.6 per 100,000 population. Ward 5 also had a higher rate of deaths due to accidents, 39.8 per 100,000 population, compared to other Wards. However, the lowest crude death rates from accidents were in Ward 2 and Ward 1 (17.3 per 100,000 population and 18.5 per 100,000 population, respectively).

**Figure 15. Accidents Crude Mortality Rates by Ward:
District of Columbia Residents, 2012**



Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012.

5. Diabetes

Diabetes is a group of diseases characterized by high blood sugar. When a person has diabetes, the body either does not make enough insulin or is unable to use its own insulin well. If blood sugar builds up in the body and its levels are not controlled, it can lead to serious health complications, such as heart disease, stroke, kidney disease, blindness, amputations of the legs and feet, and early death.

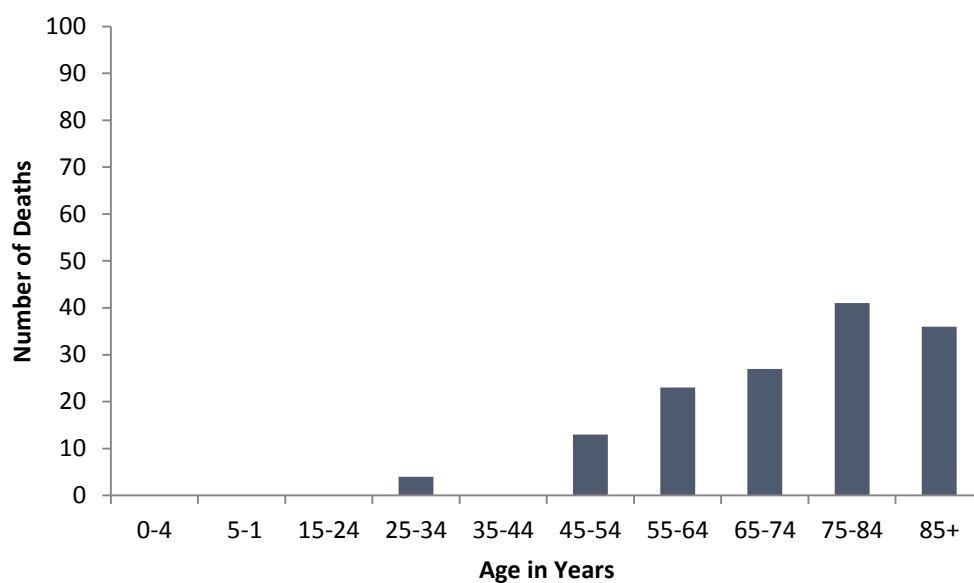
Risk factors for type 2 diabetes (the most common form) include older age, obesity, family history of diabetes, prior history of gestational diabetes, impaired glucose tolerance, physical inactivity, and race/ethnicity. African Americans, Hispanic/Latino Americans, American Indians, and some Asian Americans and Pacific Islanders are at particularly high risk for type 2 diabetes. Risk factors are less well defined for type 1 diabetes than for type 2 diabetes, but autoimmune, genetic, and environmental factors are involved in developing this type of diabetes.

Researchers are making progress in identifying the exact genetics and "triggers" that predispose some individuals to develop type 1 diabetes, but prevention remains elusive. A number of studies have shown that regular physical activity can significantly reduce the risk of developing type 2 diabetes.

In 2012, diabetes ranked as the fifth leading cause of death in the District, with an age-adjusted mortality rate of 23.9 per 100,000 population (Table 6). In the U.S. in 2012, diabetes was the seventh leading cause of death, with an age-adjusted mortality rate of 21.2 per 100,000 population. Females had a higher rate of diabetes mortality in the District compared to males, for whom diabetes was ranked the eighth leading cause of death in 2012 (Table 9). In 2012, diabetes did not rank in the ten leading causes of death for whites, however, it was the fourth leading cause of death among blacks/African Americans. Blacks/African Americans had a diabetes mortality rate of 41.4 per 100,000 population, almost two times the overall District rate (Table 10).

Figure 16 illustrates the distribution of ages at death for diabetes mortality in the District for 2012. Diabetes deaths increased with increasing age group and decreased after age 84 years; the greatest proportion of deaths were to those aged 75-84 years (41 deaths, 28 percent), followed by those aged 85+ years (36 deaths, 25 percent), and 65-74 years (27 deaths, 19 percent).

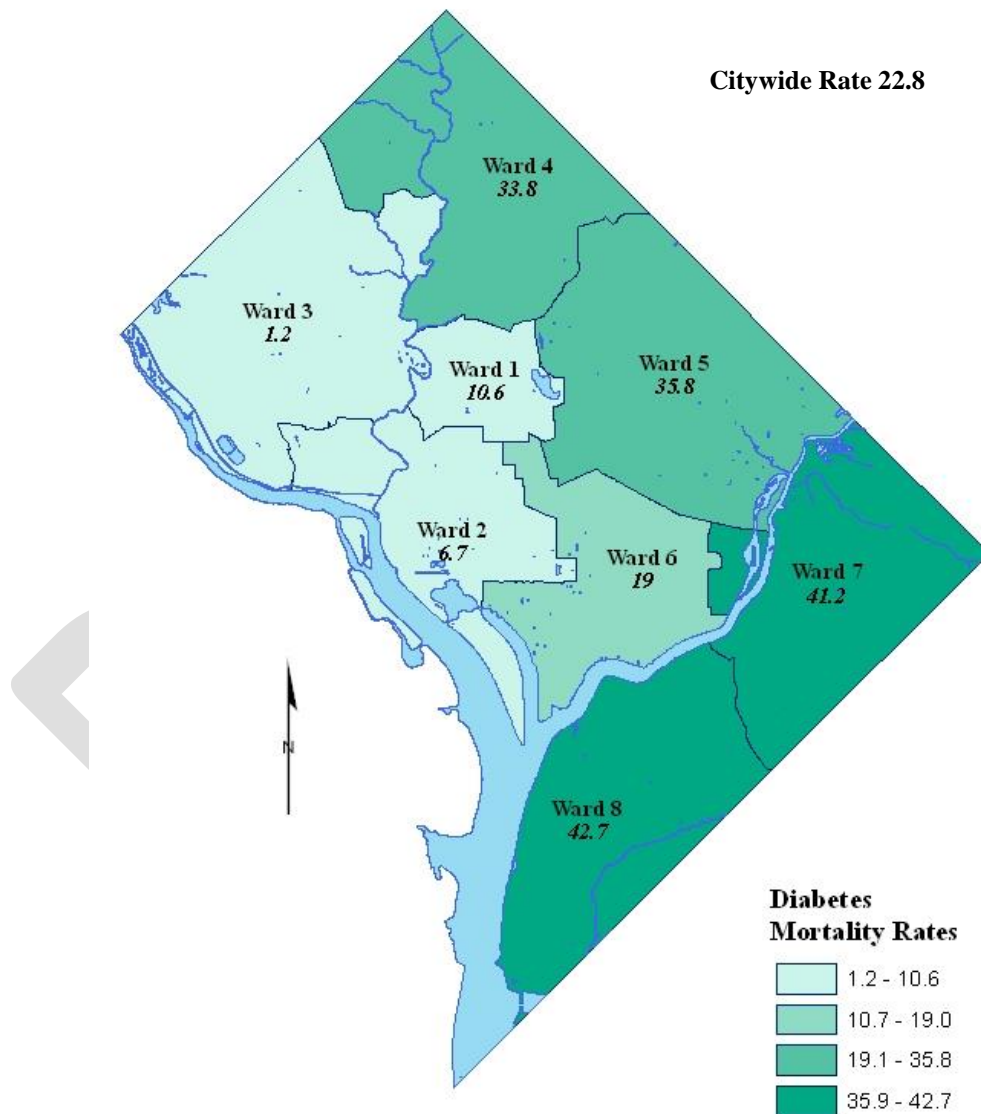
Figure 16. Diabetes Deaths in the District of Columbia by Age Group, 2012



Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012.

Figure 17 is a map of the District with shading to indicate the different rates of diabetes deaths per 100,000 population in 2012 by Ward. There was only one death from diabetes in Ward 3 in 2012, for a crude death rate of 1.2 per 100,000 population. Ward 2 had the next lowest crude death rate for diabetes, 6.7 per 100,000 population. On the other hand, Ward 8 had the highest crude rate of diabetes death, 42.7 per 100,000 population, followed by Ward 7, 41.2 per 100,000 population.

**Figure 17. Diabetes Crude Mortality Rates by Ward:
District of Columbia Residents, 2012**



Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012.

6. Chronic Lower Respiratory Disease

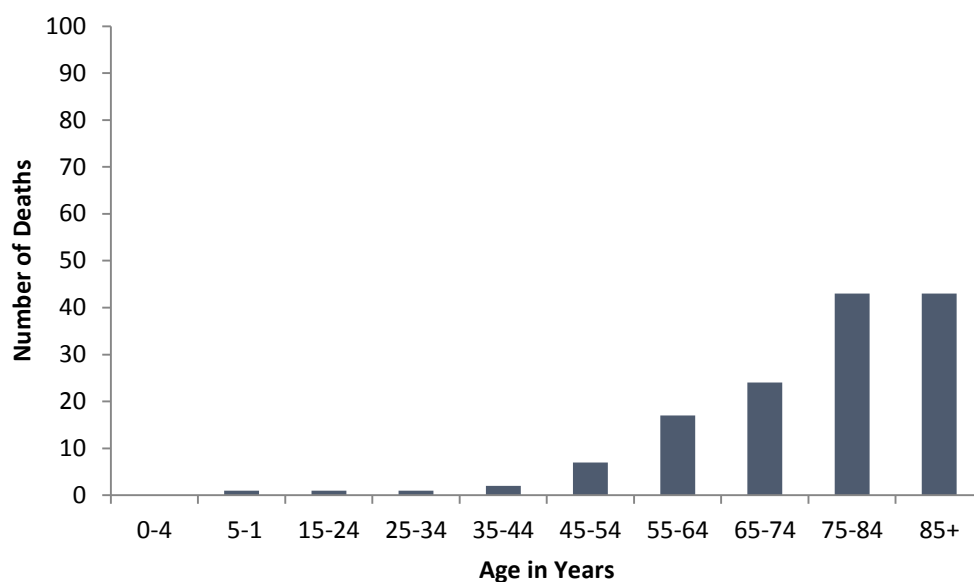
Chronic lower respiratory diseases are diseases that affect the lungs. The most deadly of these is chronic obstructive pulmonary disease (COPD), which refers to a group of diseases that cause airflow blockage and breathing-related problems. It includes emphysema, chronic bronchitis, and in some cases asthma. In the United States, tobacco smoke is a key factor in the development and progression of COPD, although exposure to air pollutants in the home and workplace, genetic factors, and respiratory infections also play a role. The following groups were more likely to report COPD:

- People aged 65–74 years
- Non-Hispanic whites
- Women
- Individuals who were unemployed, retired, or unable to work
- Individuals with less than a high school education
- People with lower incomes
- Individuals who were divorced, widowed, or separated
- Current or former smokers
- Those with a history of asthma

In 2012, Chronic Lower Respiratory Disease was the third and sixth leading cause of death, respectively, in the U.S. and District of Columbia. The 2012 age-adjusted mortality rate for Chronic Lower Respiratory Disease in the District was 23.5 per 100,000 population. The crude death rate for males (22.7 per 100,000 population) was similar for females (21.3 per 100,000 population), but among females Chronic Lower Respiratory Disease ranked lower, as the seventh leading cause of death compared to the fifth leading cause of death for males (Table 9). Moreover, blacks/African Americans had a crude mortality rate for Chronic Lower Respiratory Disease over two times as high as the crude rate for whites, 31.3 per 100,000 population compared to 12.9 per 100,000 population (Table 10).

Figure 18 illustrates the distribution of ages at death for Chronic Lower Respiratory Disease mortality for 2012. Chronic Lower Respiratory Disease deaths primarily occurred at the oldest age groups, with approximately 62 percent of deaths at ages greater or equal to 75 years. Very few deaths occurred to DC residents at young ages; fewer than 10 percent of Chronic Lower Respiratory Disease deaths were under the age of 55 years.

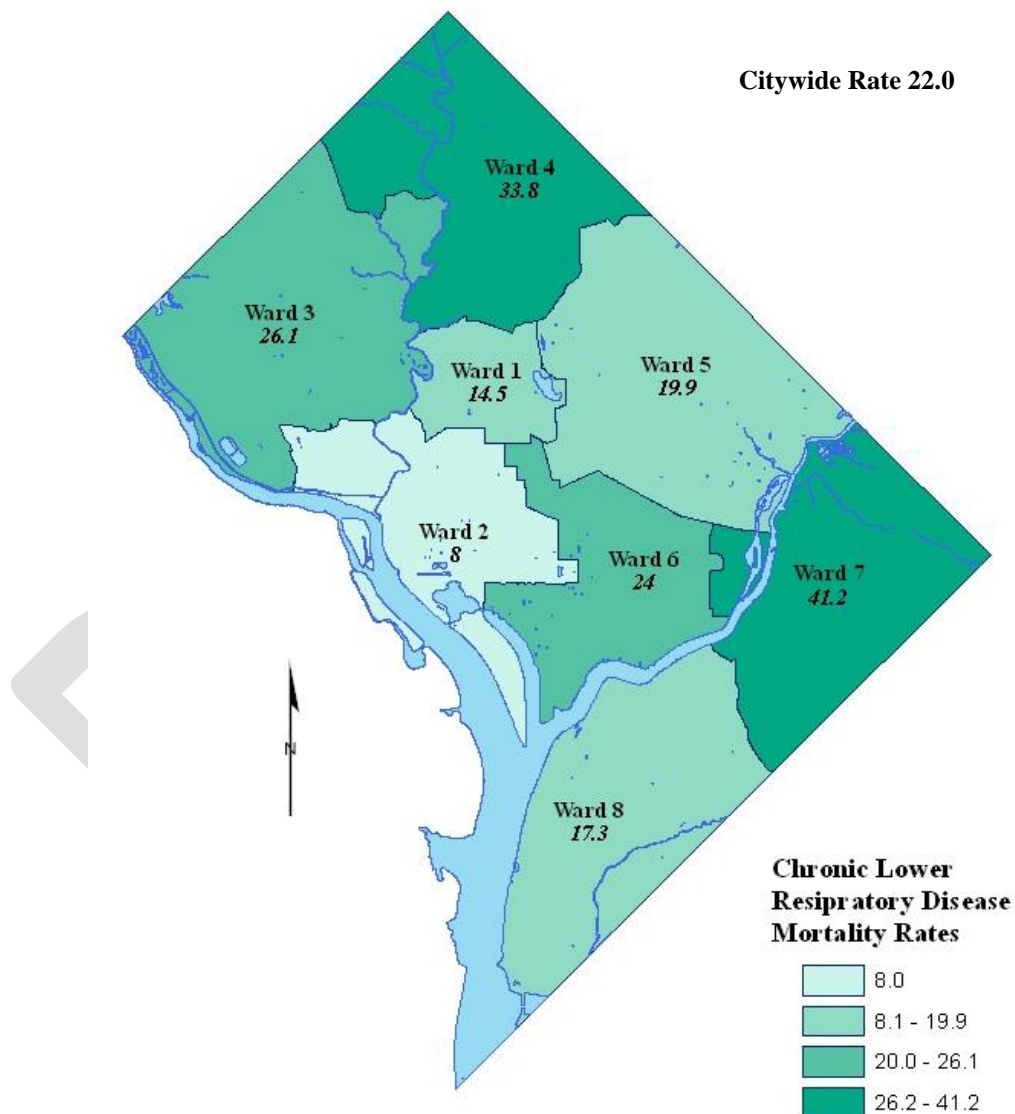
Figure 18. Chronic Lower Respiratory Disease Deaths in the District of Columbia by Age Group, 2012



Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012.

Figure 19 is a map of the District with shading to indicate the different rates of deaths from Chronic Lower Respiratory Disease per 100,000 population in 2012 by Ward. Ward 7 had the highest crude rate of Chronic Lower Respiratory Disease death, 41.2 per 100,000, followed by Ward 4, 33.8 per 100,000 population. The lowest crude death rate for Chronic Lower Respiratory Disease was in Ward 2, at 8.0 per 100,000 population.

**Figure 19. Chronic Lower Respiratory Disease Crude Mortality Rates by Ward:
District of Columbia Residents, 2012**



Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012.

7. Alzheimer's Disease

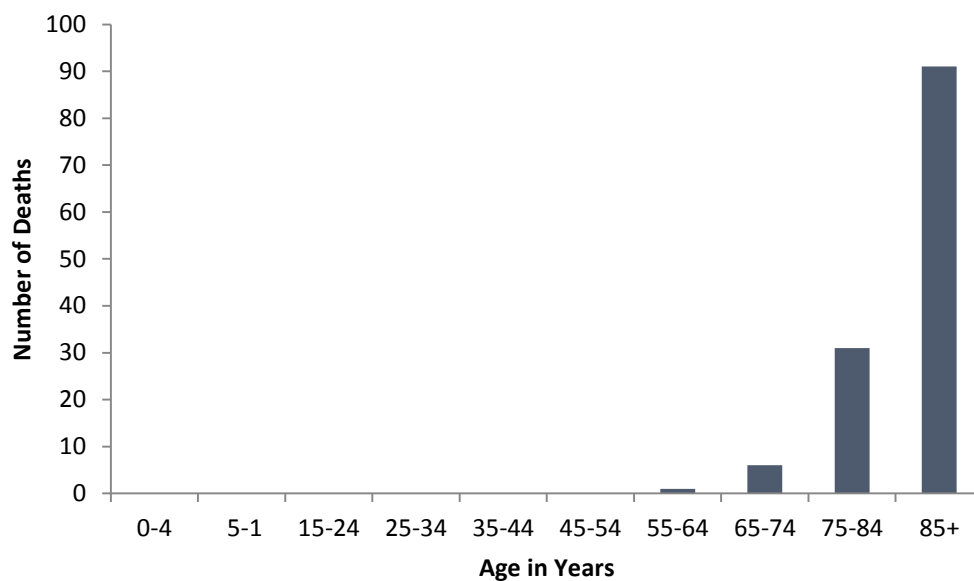
Alzheimer's Disease is the most common form of dementia. It is a progressive disease beginning with mild memory loss possibly leading to loss of the ability to carry on a conversation and respond to the environment. It involves parts of the brain that control thought, memory, and language, and can seriously affect a person's ability to carry out daily activities. Scientists do not yet fully understand what causes Alzheimer's disease. There probably is not one single cause, but several factors may affect each person differently:

- Age is the best known risk factor for Alzheimer's disease.
- Family history—researchers believe that genetics may play a role in developing Alzheimer's disease.
- Changes in the brain can begin years before the first symptoms appear.
- Researchers are studying whether education, diet, and environment play a role in developing Alzheimer's disease.
- Scientists are finding more evidence that some of the risk factors for heart disease and stroke, such as high blood pressure, high cholesterol, and low levels of the vitamin folate may also increase the risk of Alzheimer's disease.
- Evidence is also growing for physical, mental, and social activities as protective factors against Alzheimer's disease.

In 2012, Alzheimer's disease was the seventh leading cause of death in the District; the age-adjusted mortality rate was 20.5 per 100,000 population. However, for the U.S. in 2012, Alzheimer's disease was the sixth leading cause of death, with an age-adjusted mortality rate 23.8 per 100,000 population. Further, Alzheimer's disease was the fourth leading cause of death among females (28.8 deaths per 100,000 population) as well as whites (17.3 deaths per 100,000 population) in the District in 2012. However, Alzheimer's disease was not among the ten leading causes for males. Although Alzheimer's disease ranked ninth among blacks/African Americans, the crude mortality rate was higher compared to whites, 24.6 per 100,000 population (Table 10).

In 2012, deaths from Alzheimer's disease in the District increased with age, and 70 percent of deaths were among DC residents aged 85 years and older (Figure 20). In addition, 24 percent of Alzheimer's disease deaths occurred between ages 75-84 years, and 6 percent to residents aged less than 75 years. However, there were no deaths from Alzheimer's disease to decedents younger than 55 years in the District in 2012.

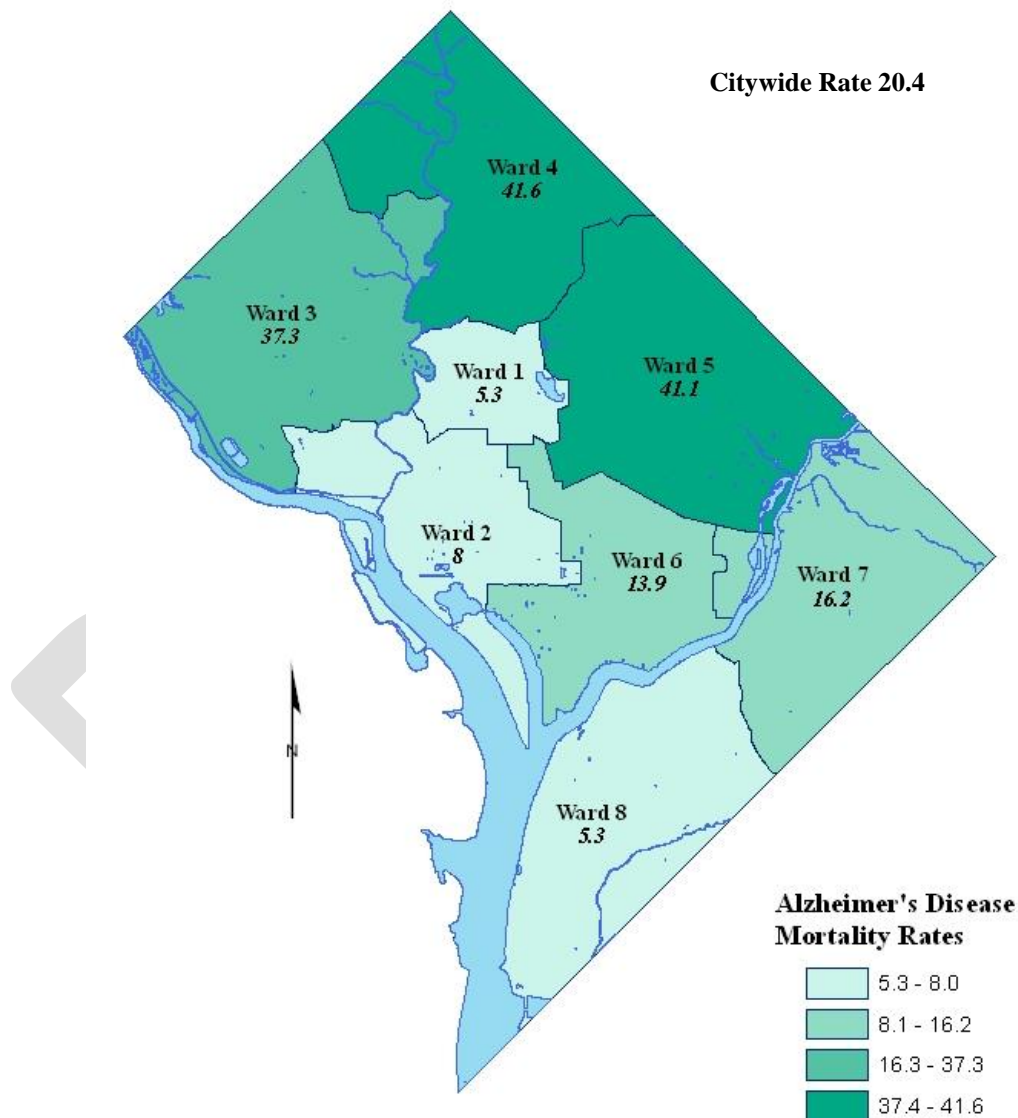
Figure 20. Alzheimer's Disease Deaths in the District of Columbia by Age Group, 2012



Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012.

Figure 21 is a map of the District with shading to indicate the different rates of Alzheimer's disease deaths per 100,000 population in 2012 by Ward. Ward 4 and Ward 5 had the highest crude rates of Alzheimer's disease death in the District, 41.6 per 100,000 and 41.1 per 100,000 population, respectively. In contrast, Ward 1 and Ward 8 equally had the lowest rate of Alzheimer's disease mortality, 5.3 deaths per 100,000 population.

**Figure 21. Alzheimer's Disease Crude Mortality Rates by Ward:
District of Columbia Residents, 2012**



Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012.

8. HIV/AIDS

HIV stands for human immunodeficiency virus. It weakens a person's immune system by destroying important cells that fight disease and infection. No effective cure exists for HIV. But with proper medical care, HIV can be controlled.

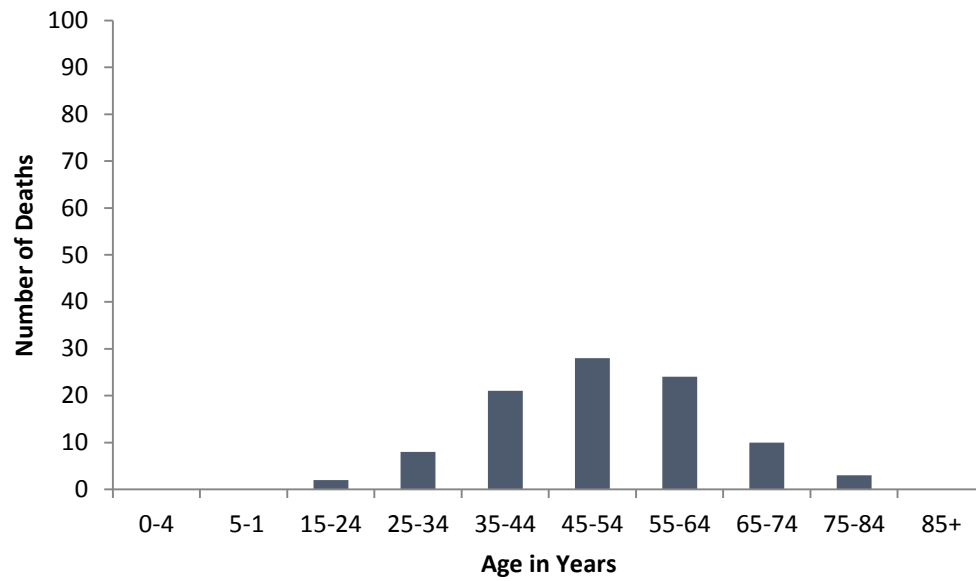
Acquired immunodeficiency syndrome (AIDS) is the most severe phase of HIV infection. People with AIDS have such badly damaged immune systems that they get an increasing number of severe illnesses, called opportunistic illnesses. Common symptoms of AIDS include chills, fever, sweats, swollen lymph glands, weakness, and weight loss. People are diagnosed with AIDS when their CD4 cell count drops below 200 cells/mm or if they develop certain opportunistic illnesses. People with AIDS can have a high viral load and be very infectious.

Some groups of people are more likely to get HIV than others because of many factors, including their sex partners, their risk behaviors, and where they live. In the United States, HIV is mainly spread by having sex or sharing syringes and other injection equipment with someone who is infected with HIV. Substance use can contribute to these risks indirectly because alcohol and other drugs can lower people's inhibitions and make them less likely to use condoms.

In 2012, HIV/AIDS was the eighth leading cause of death in the District, but was not among the leading causes of death for the U.S. There were 96 deaths from HIV/AIDS among DC residents in 2012, accounting for an age-adjusted mortality rate of 15.4 per 100,000 population. HIV/AIDS was the fifth leading cause of death among males as well as seventh leading cause of death among blacks/African Americans in the District in 2012, with crude mortality rates of 22.7 per 100,000 population and 27.2 per 100,000 population, respectively. However, when considered as a group, females and whites did not have HIV/AIDS among their leading causes of death.

Figure 22 shows the distribution of deaths due to HIV/AIDS by age group. Deaths from HIV/AIDS increased with age until ages 45-54 years, the range where the most HIV/AIDS deaths occurred (28 deaths, 29 percent); then, the number of deaths decreased with age. There were 24 (25 percent), 21 deaths (22 percent), and 10 deaths (10 percent) from HIV/AIDS, respectively, at ages 55-64 years, 35-44 years, and 65-74 years.

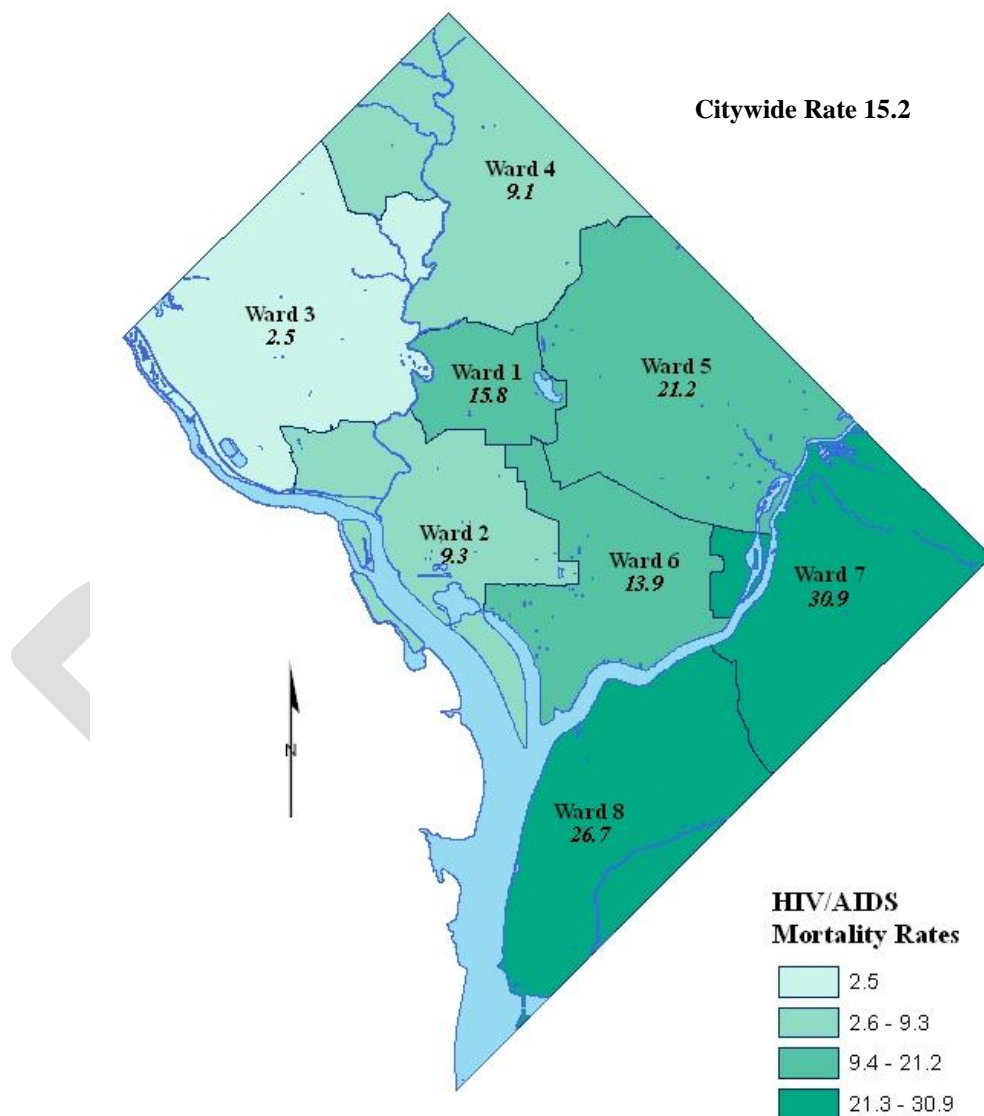
Figure 22. Deaths Due to HIV/AIDS in the District of Columbia by Age Group, 2012



Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012.

Figure 23 is a map of the District with shading to indicate the different rates of HIV/AIDS deaths per 100,000 population in 2012 by Ward. Ward 7 and Ward 8 had the highest crude HIV/AIDS mortality rates in the District in 2012, 30.9 per 100,000 and 26.7 per 100,000 population. However, the lowest crude death rate was in Ward 3, 2.5 per 100,000 population, resulting from only two HIV/AIDS deaths.

**Figure 23. HIV/AIDS Crude Mortality Rates by Ward:
District of Columbia Residents, 2012**



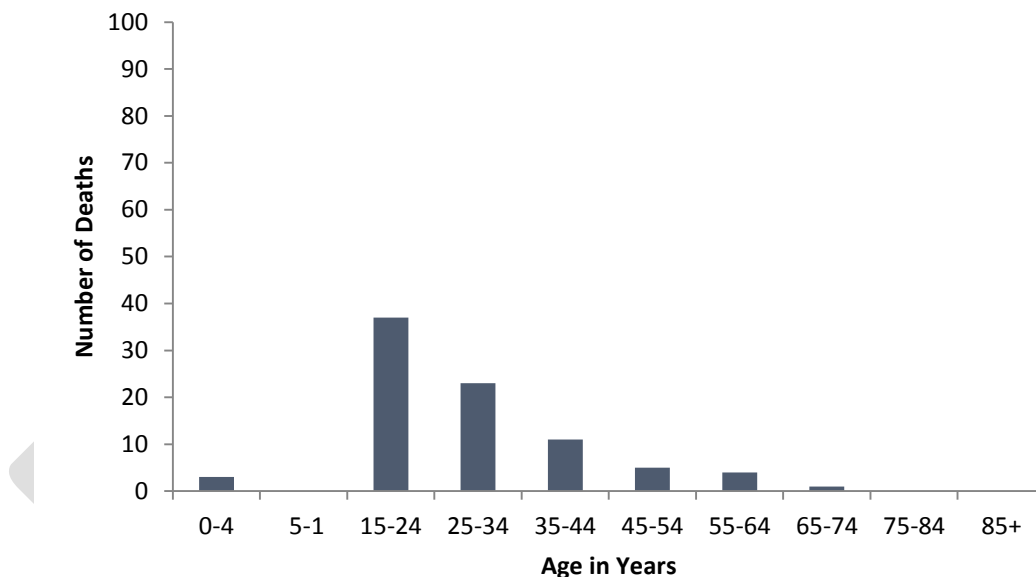
Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012.

9. Assault/Homicide

In 2012, assault/homicide was the ninth leading cause of death in the District but did not rank as a leading cause of death in the U.S. The 2012 DC resident crude mortality rate of assault/homicide was 13.3 per 100,000 population and the age-adjusted mortality rate was 11.6 per 100,000 population (Table 6 and Table 11). There were no assault/homicide deaths among whites in the District in 2012. Of the 84 assault/homicide deaths that occurred, 87 percent were black/African American males (24.8 per 100,000 population³) and 12 percent were black/African American females.

In 2012, the age distribution of deaths from assault/homicide was unlike any of the other leading causes of death in the District (Figure 24). Most assault/homicide deaths occurred between ages 15-24 years (44 percent) and 25-34 years (27 percent), and the frequency decreased with age. The negative association between age and assault/homicide deaths explains the lower age-adjusted than crude death rate.

Figure 24. Assault/Homicide Deaths in the District of Columbia by Age Group, 2012



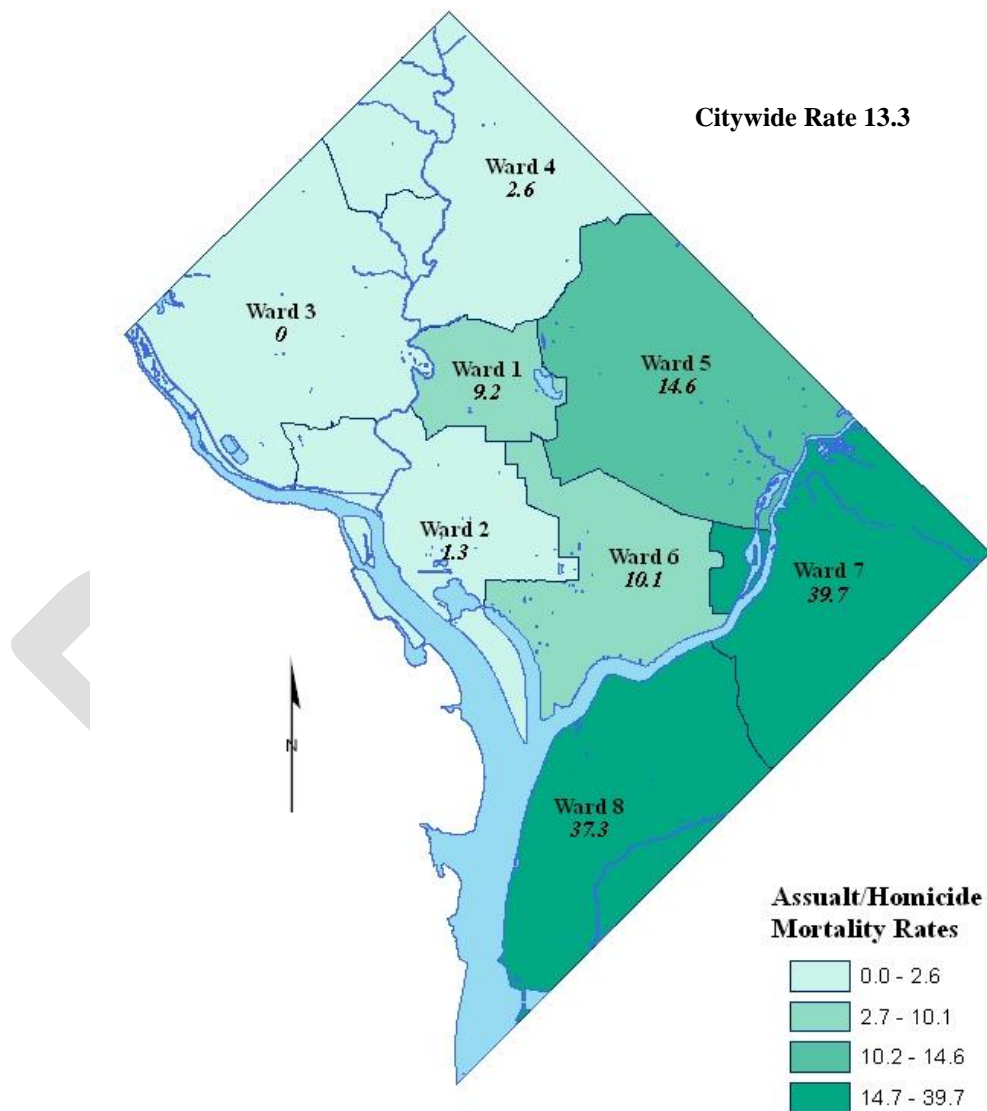
Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012.

According to the CDC, violence is a serious public health problem in the United States. From infants to the elderly, it affects people in all stages of life. In 2012, more than 16,000 people were victims of homicide and more than 40,000 took their own life. The number of violent deaths tells only part of the story. Many more survive violence and are left with permanent physical and emotional scars. Violence also erodes communities by reducing productivity, decreasing property values, and disrupting social services.

³ This was taken from Table 9, the crude mortality rate of assault/homicide for males, all of whom were black/African American.

Figure 25 is a map of the District with shading to indicate the different rates of assault/homicide deaths per 100,000 population in 2012 by Ward. There were no assault/homicide deaths in Ward 3 in 2012. Ward 2 and Ward 4 had very low crude mortality rates for assault/homicide, 1.3 per 100,000 population and 2.6 per 100,000 population, respectively. However, Ward 7 had the highest crude mortality rate for assault/homicide in the District, 39.7 per 100,000, and Ward 8 had the next highest rate, 37.3 per 100,000 population.

**Figure 25. Assault/Homicide Crude Mortality Rates by Ward:
District of Columbia Residents, 2012**



Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012.

10. Influenza and Pneumonia

Influenza (flu) is a contagious respiratory illness caused by influenza viruses. It can cause mild to severe illness. Serious outcomes of flu infection can result in hospitalization or death. Some people, such as older people, young children, and people with certain health conditions, are at high risk for serious flu complications. People who have the flu often feel some or all of these symptoms:

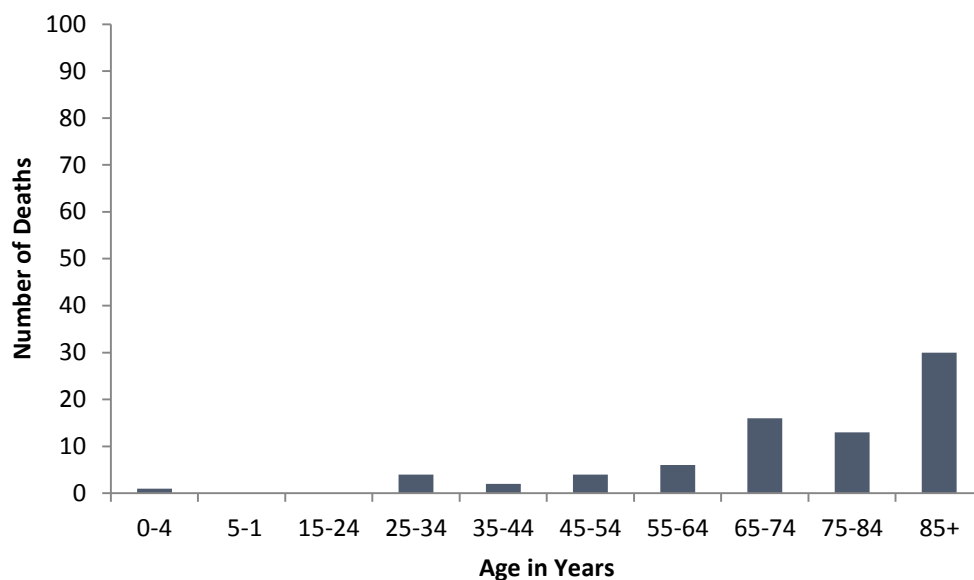
- Fever or feeling feverish/chills
- Cough
- Sore throat
- Runny or stuffy nose
- Muscle or body aches
- Headaches
- Fatigue (tiredness)
- Vomiting and diarrhea, though this is more common in children than adults

Pneumonia is an infection of the lungs that can cause mild to severe illness in people of all ages. It is the leading cause of death in children younger than 5 years of age worldwide. Common signs of pneumonia include cough, fever, and difficulty breathing. Individuals who smoke or have underlying medical conditions, such as diabetes or heart disease, are more likely to become ill with pneumonia. These respiratory infections can often be prevented with vaccines and can usually be treated with antibiotics, antiviral drugs, or specific drug therapies.

In 2012, Influenza and Pneumonia was the tenth leading cause of death in the District, with an age-adjusted mortality rate of 11.6 per 100,000 population (Table 6). In the U.S. in 2012, Influenza and Pneumonia was the eighth leading cause of death, with an age-adjusted mortality rate of 14.4 per 100,000 population. Similarly, Influenza and Pneumonia was the eighth leading cause of death among females as well as whites residing in the District in 2012, with crude death rates of 13.2 deaths per 100,000 population and 5.5 deaths per 100,000 population, respectively (Table 9 and Table 10). However, Influenza and Pneumonia was not among the ten leading causes of death for males as well as blacks/African Americans.

In 2012, the distribution of ages at death for Influenza and Pneumonia (Figure 26) was similar to Chronic Lower Respiratory Disease deaths (Figure 18). Influenza and Pneumonia deaths primarily occurred among older aged residents, with 56 percent of deaths at ages 75 years and greater and 29 percent of deaths at ages 55 to 74 years. Fewer than 15 percent of Influenza and Pneumonia deaths were under the age of 55 years.

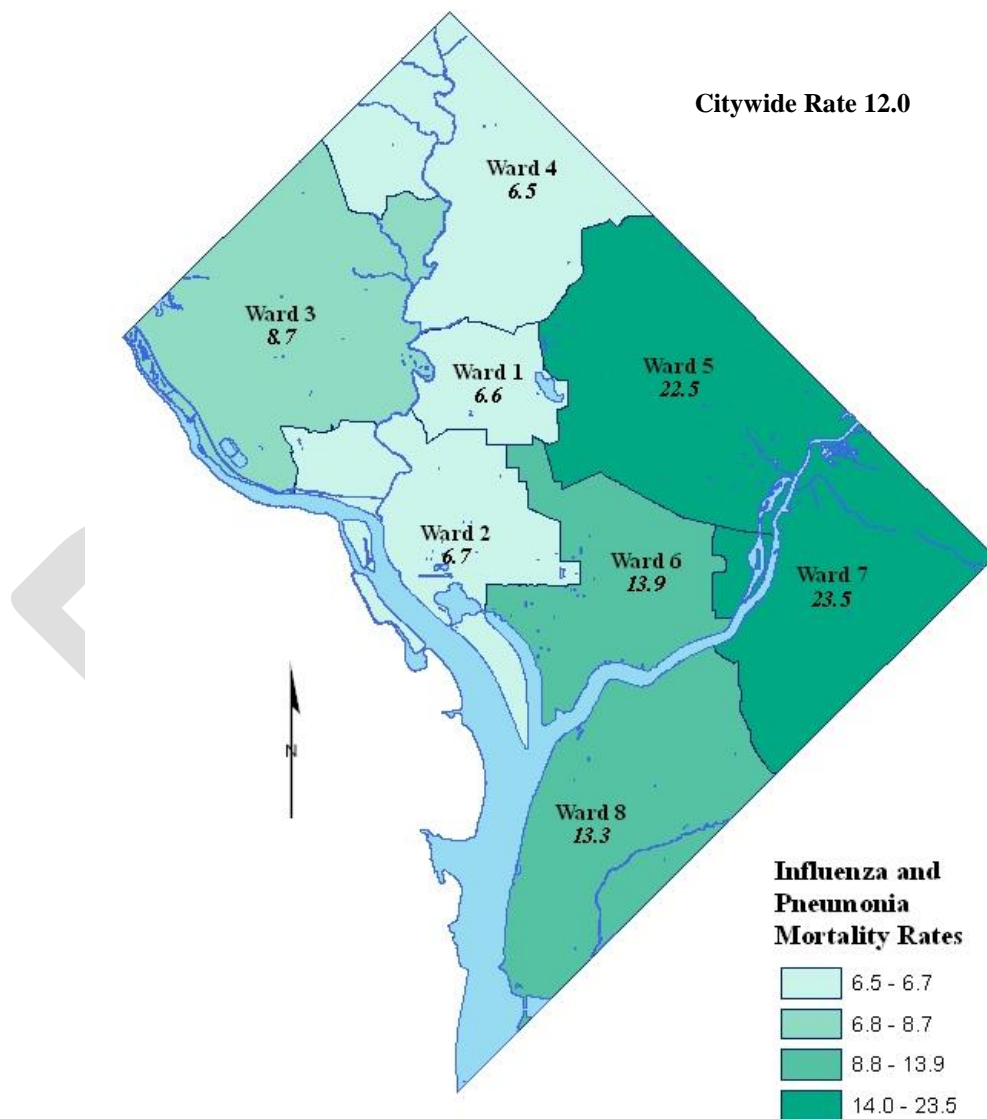
Figure 26. Influenza and Pneumonia Deaths in the District of Columbia by Age Group, 2012



Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012.

Figure 27 is a map of the District with shading to indicate the different rates of deaths per 100,000 population in 2012 by Ward. Ward 7 had the highest crude Influenza and Pneumonia mortality rate, 23.5 per 100,000, followed by Ward 5, 22.5 per 100,000 population. However, Ward 1, Ward 2, and Ward 4 had similarly low Influenza and Pneumonia mortality rates of 6.6 per 100,000 population, 6.7 per 100,000 population, and 6.5 per 100,000 population, respectively.

**Figure 27. Influenza and Pneumonia Crude Mortality Rates by Ward:
District of Columbia Residents, 2012**



Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012.

PREMATURE DEATH

In 2012, life expectancy at birth for the United States population was 78.8 years; therefore, in this report, a death occurring before the age of 70 years is considered premature. In the District for 2012, a total of 1,988 or 42.8 percent of resident deaths occurred before age 70 years. The rankings for leading causes of premature death differed slightly from the leading causes for all ages. The leading causes of premature mortality in the District of Columbia in 2012 were cancer, followed by heart disease, accidents, HIV/AIDS, and homicide/assault (Table 12). The five leading causes of premature death accounted for 63.4 percent of all premature deaths.

**Table 12. Leading Causes of Premature Deaths before Age 70 Years
District of Columbia Residents, 2012**

Cause and Rank	Number	Percent	Cause and Rank	Number	Percent
All Causes <70 Years			20-24 Years		
All Causes	1988	100.0	All causes	45	100.0
1. Cancer	519	26.1	1. Assault/Homicide	28	62.2
2. Heart Disease	426	21.4	2. Suicide	4	8.9
3. Accidents	141	7.1	3. Accidents	2	4.4
4. HIV/AIDS	91	4.6	3. Cancer	2	4.4
5. Assault/Homicide	84	4.2	Other causes	9	20.0
6. Stroke	62	3.1	25-44 Years		
7. Diabetes	56	2.8	All Causes	260	100.0
8. Chronic Liver Disease and Cirrhosis	47	2.4	1. Accidents	41	15.8
9. Perinatal Conditions	44	2.2	2. Assault/Homicide	34	13.1
10. Chronic Lower Respiratory Diseases	37	1.9	3. Heart	34	13.1
Other causes	513	25.8	4. HIV/AIDS	29	11.2
Infants < 1 Year			5. Cancer	27	10.4
All causes	74	100.0	6. Suicide	16	6.2
1. Short Gestation & Low Birth Weight	16	21.6	Other causes	79	30.4
2. Congenital abnormalities	14	18.9	45-64 Years		
3. Maternal Complications of Pregnancy	11	14.9	All causes	1,184	100.0
4. Complications, Cord & Membrane	7	9.5	1. Cancer	347	29.3
Other causes	26	35.1	2. Heart Disease	281	23.7
1-14 Years			3. Accidents	75	6.3
All causes	16	100.0	4. HIV/AIDS	52	4.4
1. Accidents	5	31.3	5. Stroke	46	3.9
2. Cancer	2	12.5	Other causes	383	32.3
3. Suicide	1	6.3	65-69 Years		
Other causes	8	50.0	All causes	385	100.0
15-19 Years			1. Cancer	141	36.6
All causes	24	100.0	2. Heart Disease	109	28.3
1. Assault/Homicide	9	37.5	3. Diabetes	16	4.2
2. Accidents	6	25.0	4. Accidents	12	3.1
3. Suicide	1	4.2	5. Stroke	11	2.9
Other causes	8	33.3	Other causes	96	24.9

Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012.

YEARS OF POTENTIAL LIFE LOST

Years of potential life lost (YPLL) measures years lost due to premature death and emphasizes the effect of premature mortality on a population. Table 13 and Figure 28 present selected causes of death contributing the greatest number of YPLL in the District in 2012. Diseases and conditions that contribute among the most YPLL but did not appear among the ten leading causes of death in the District include, perinatal conditions, suicide, and chronic liver disease/cirrhosis.

Table 13. Years of Potential Life Lost (YPLL) Before Age 70 by Sex and Selected Causes of Death, District of Columbia, 2012

Cause of Death ¹	All		Male		Female	
	YPLL	%	YPLL	%	YPLL	%
Total	38,312	100.0	22,974	100.0	15,338	100.0
Cancer	6,981	18.2	3,381	14.7	3,601	23.5
Heart Disease	5,991	15.6	3,936	17.1	2,055	13.4
Accidents	3,381	8.8	2,119	9.2	1,262	8.2
Homicide/Assault	3,379	8.8	2,973	12.9	407	2.7
Perinatal Conditions	3,037	7.9	2,203	9.6	834	5.4
HIV/AIDS	1,961	5.1	1,282	5.6	679	4.4
Intentional Self-Harm (Suicide)	1,006	2.6	795	3.5	211	1.4
Stroke	968	2.5	406	1.8	563	3.7
Diabetes	748	2.0	306	1.3	442	2.9
Chronic Liver Disease and Cirrhosis	726	1.9	432	1.9	294	1.9
Chronic Lower Respiratory Diseases	618	1.6	256	1.1	363	2.4
Septicemia	515	1.3	315	1.4	200	1.3
Influenza and Pneumonia	453	1.2	113	0.5	340	2.2
Viral Hepatitis	360	0.9	158	0.7	202	1.3
Essential Hypertension	306	0.8	166	0.7	141	0.9
Other Diseases of Circulatory System	251	0.7	205	0.9	47	0.3
Other Diseases of Respiratory System	209	0.5	47	0.2	163	1.1
Nephritis, Nephrotic Syndrome and Nephrosis	194	0.5	147	0.6	47	0.3
Alzheimer's Disease	19	0.0	0	0.0	194	1.3
Pneumonitis due to Solids and Liquids	16	0.0	0	0.0	16	0.1
Parkinson's Disease	9	0.0	9	0.0	0	0.0
All Others	7,189	18.8	3,730	16.2	3,459	22.6

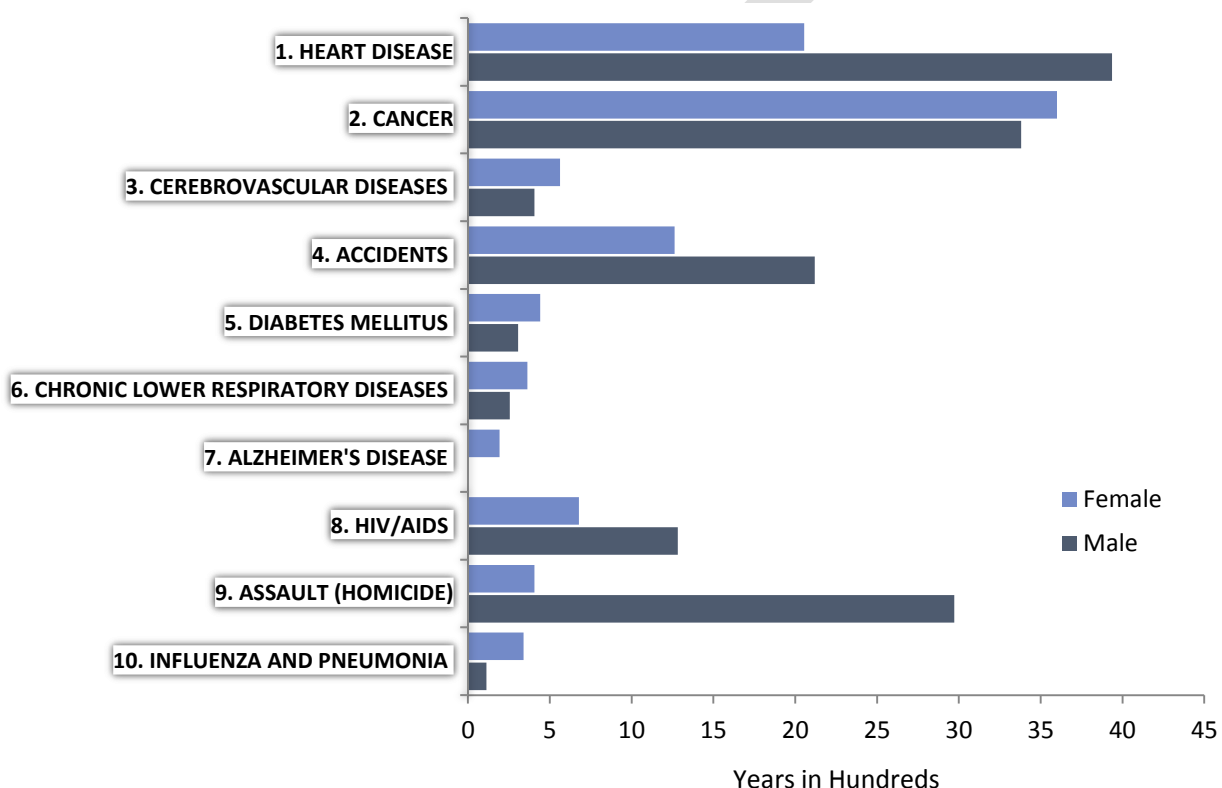
¹Rank based on number of years of potential life lost for the total DC population in 2012.

Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012.

See Technical Notes: Years of Potential Life Lost for more details on calculation.

In 2012 in the District, a total of 38,312 YPLL due to premature deaths (before age 70 years), including a combined 12,972 YPLL attributable to heart disease and cancer deaths, and combined 6,760 YPLL attributable to accidents and assault/homicide deaths. Among males, heart disease, cancer, assault/homicide, and accidents contributed the most to premature deaths, with 12,407 YPLL. Additionally, cancer, heart disease, and accidents contributed the most to premature deaths among females, amounting to 6,917 YPLL.

Figure 28. Years of Potential Life Lost (YPLL) Before Age 70 by Sex among Ten Leading Causes of Death, District of Columbia, 2012



Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012.

ADULT MORTALITY: ELDERLY (65 YEARS AND OLDER)

The 2010 U.S. Census indicated that the District was home to 68,809 elderly persons, who accounted for 11.4 percent of the total population (601,723). The 2012 U.S. Census population estimates showed an increase in the number of elderly persons resided in the District to 71,889 or 11.0 percent of the total population estimate (632,323). As the population continues to live longer, as predicted by the increasing life expectancy nationally, the need for health care among the elderly will increase.

A total of 3,045 (65.5 percent) District residents who died in 2012 were 65 years of age and older. Chronic diseases caused most of the deaths among the elderly (Tables 12 and 14). The leading cause of death among the elderly (aged 65 years and older) was heart disease, accounting for 32.2 percent of all deaths to this age group. The second leading cause of death for this age range was cancer (23.1 percent). The third leading cause of death for the elderly was cerebrovascular disease (stroke), followed by Alzheimer's disease, chronic lower respiratory diseases, diabetes, accidents, Influenza and Pneumonia, essential hypertension, and septicemia.

**Table 14. Ten Leading Causes of Death to Residents Aged 65 and Older:
District of Columbia, 2012**

Cause and Rank	Number	Percent
All Causes	3045	100.0
1. Heart Disease	979	32.2
2. Cancer	703	23.1
3. Cerebrovascular Disease	155	5.1
4. Alzheimer's Disease	128	4.2
5. Chronic Lower Respiratory Diseases	110	3.6
6. Diabetes	104	3.4
7. Accidents	64	2.1
8. Influenza/Pneumonia	59	1.9
9. Essential Hypertension	53	1.7
10. Septicemia	49	1.6
All Other Causes	641	21.1

Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012.

DISCUSSION

This report presents 2008-2012 District of Columbia mortality data with an emphasis on the ten leading causes of death. Cause-of-death ranking is the standard method used to present mortality statistics and is useful for illustrating the relative burden of particular diseases or injuries that cause mortality. However, caution must be used when interpreting cause-of-death rankings because the WHO and NCHS methods frequently change, for example, to include new diagnoses or rules to determine a single underlying cause of death, and sub-categories to indicate deaths from specific events. In addition, cause-of-death rankings and mortality rates in the District are affected by random variations due to the small size of the population (Technical note: Random variation); consider random variations when comparing DC resident rates with rates from other populations.

Moreover, demographic characteristics and age distributions of populations affect rates and cause-of-death rankings. For instance in 2012, Ward 2 had the lowest death rate in the District and the lowest rate for five of the leading causes of death, which was likely attributable to young and white populations—62 percent were less than 35 years old and 72 percent were white.⁴ In contrast, Ward 5 had the highest 2012 death rate in the District as well as the highest rates for heart disease and cancer. Yet, Ward 5 notably had the highest proportion of adults aged 65 years and older (15 percent) and the third largest black/African American population (76 percent). It is also worth mentioning that Ward 7 had the highest death rate for HIV/AIDS and assault/homicide, and Ward 7 had the largest proportion of blacks/African Americans (94.6 percent), and over 39 percent were aged 35-64 years.

Seven of the top ten causes of death in 2012 were chronic diseases and conditions. Two of these chronic diseases—heart disease and cancer—together accounted for over 51 percent of all deaths. Chronic illnesses are among the most common and preventable of all health problems. In 2009, half of all Americans were living with at least one chronic condition such as, arthritis, asthma, chronic respiratory conditions, diabetes, heart disease, HIV, and hypertension; chronic conditions also include substance use and addiction disorders, mental illnesses, dementia, and developmental disabilities.

In addition, more than one in four Americans had two or more chronic conditions in 2006. Women are more likely to have chronic conditions because they tend to live longer than men. Related, DC resident women in 2012 had more deaths than men from heart disease, cancer, stroke, and diabetes. Although, the risk of developing chronic conditions increases with age, the majority of people in the U.S. with chronic conditions are under age 65. In 2012, 81 percent of premature deaths in the District, deaths before age 70, were caused by chronic diseases. However, increases in life expectancy and aging of the population will create significant challenges of managing multiple chronic conditions among the growing elderly population, and in turn, preventing chronic disease morbidity and mortality.

The DOH programs are working to implement strategies such as quality improvement to increase effectiveness, delivery, and use of clinical services that address needs for managing chronic diseases in the District. Additionally, these programs address disparities in health outcomes by acknowledging

⁴ DC population estimates, by age group and Ward, are not in this report but can be found in the DC Office of Planning report, *Indices*, 2013.

disparities in access to health care and health resources in communities, for example, healthy food. These combined efforts can reduce health care spending and the burden of preventable diseases for residents.

DRAFT

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APPENDIX 1: Population Data

**Table A1.1. District of Columbia Population by Ward:
Census 2010 Population and Estimated Population for 2012**

	2010 Population ¹	2012 Population Estimates ²	Change 2010 to 2012
Total	601,723	632,323*	30,600
Ward 1	74,462	75,814	1,352
Ward 2	76,645	75,116	-1,529
Ward 3	78,887	80,344	1,457
Ward 4	75,773	76,851	1,078
Ward 5	74,308	75,470	1,162
Ward 6	76,238	79,119	2,881
Ward 7	71,748	68,035	-3,713
Ward 8	73,662	75,010	1,348

¹ 2010 Census population numbers by 2012 Ward boundaries. Source: U.S. Census Bureau, 2010 Census; *Indices 2013* Government of the District of Columbia.

² Ward-specific counts do not add to total—different estimation methods used. Total 2012 population estimate, U.S. Census Bureau; wards from American Community Survey (ACS) 2008-2012, U.S. Census Bureau; all estimates prepared by District of Columbia Office of Planning, State Data Center.

Table A1.2. District of Columbia Population Estimates by Age and Sex, 2012

Age	Sex		Total	
	Male, n	Female, n	Number	Percent
Under 5	19,743	19,133	38,876	6.15
5 to 9	14,470	14,255	28,725	4.54
10 to 14	13,037	12,651	25,688	4.06
15 to 19	18,409	20,511	38,920	6.16
20 to 24	27,114	32,649	59,763	9.45
25 to 29	34,790	41,207	75,997	12.02
30 to 34	30,830	33,095	63,925	10.11
35 to 39	22,337	22,744	45,081	7.13
40 to 44	20,377	19,854	40,231	6.36
45 to 49	19,337	18,841	38,178	6.04
50 to 54	18,541	18,971	37,512	5.93
55 to 59	16,848	19,096	35,944	5.68
60 to 64	14,164	17,430	31,594	5.00
65 to 69	10,396	12,973	23,369	3.70
70 to 74	7,123	9,206	16,329	2.58
75 to 79	4,758	7,149	11,907	1.88
80 to 84	3,424	5,857	9,281	1.47
85 and over	3,343	7,660	11,003	1.74
Total	299,041	333,282	632,323	100.00

Source: U.S. Census Bureau, Population Division, 2012. *2012 DC Population Estimates Fact Sheet*. Office of Planning, State Data Center, Government of the District of Columbia.

Table A1.3. District of Columbia Population Estimates by Race and Ethnicity, Sex, 2012

Race and Ethnicity	Sex		Total
	Male	Female	
Total	299,036	333,287	632,323
White alone	123,557	127,100	250,657
Black alone	141,876	171,348	313,224
AI/AN alone	N/A	N/A	2,258
Asian alone	8,926	12,932	21,858
Native Hawaiian/Other Pacific Islander alone	N/A	N/A	54
Some Other Race Alone	15,637	12,932	28,401
Two or more races	7,894	7,977	15,871
Hispanic or Latino Origin:	32,291	30,435	62,726

Note: *Hispanics can be of any race.*

N/A: *Not available – sample sizes are too small.*

Source: U.S. Census Bureau, American Community Survey (ACS) 2012 1-year. Office of Planning, State Data Center.

APPENDIX 2: Leading Causes of Death by Race and Sex

**Table A2.1. Ten Leading Causes of Death and Crude Death Rates* by Race and Sex:
District of Columbia Residents, 2012**

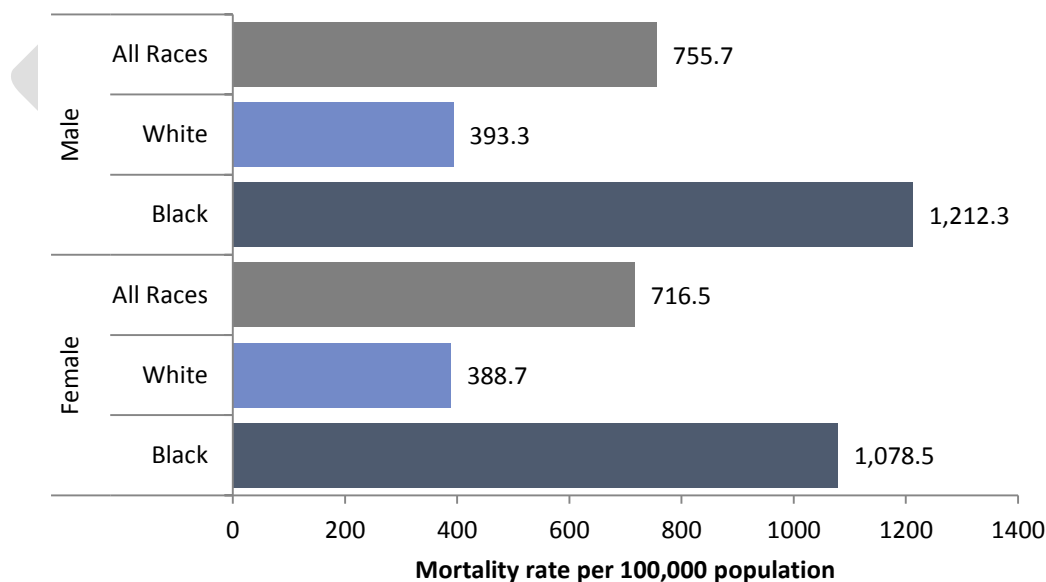
Black/African American				White			
Male		Female		Male		Female	
Causes ¹	Rate*	Causes ¹	Rate*	Causes ¹	Rate*	Causes ¹	Rate*
Total	1212.3	Total	1078.5	Total	393.3	Total	388.7
Heart Disease	358.8	Heart Disease	312.8	Heart Disease	97.9	Cancer	104.6
Cancer	276.3	Cancer	238.1	Cancer	97.1	Heart Disease	88.9
Accidents	55.0	Stroke	63.0	Accidents	28.3	Alzheimer's Disease	26.0
Homicide/ Assault	51.5	Diabetes	44.9	Stroke	12.1	Stroke	23.6
HIV/AIDS	40.9	Alzheimer's Disease	35.6	Alzheimer's Disease	11.3	Accidents	18.9
Diabetes	38.1	Accidents	29.2	Chronic Lower Respiratory	10.5	Chronic Lower Respiratory	17.3
Chronic Lower Respiratory	36.7	Chronic Lower Respiratory	27.4	Chronic Liver Disease and Cirrhosis	9.7	Chronic Liver Disease and Cirrhosis	7.9
Stroke	35.2	Influenza & Pneumonia	20.4	Suicide	9.7	Influenza & Pneumonia	6.3
Essential Hypertension	22.6	Septicemia	20.4	Other Diseases of Respiratory System	7.3	Other Diseases of Circulatory System	3.9
Septicemia	19.0	HIV/AIDS	16.3	HIV/AIDS	6.5	Diabetes	2.4
Others		Others		Others		Others	

*Crude death rates are per 100,000 population based on 2012 population estimates. Use caution when interpreting rates based on small death counts.

¹Rank based on number of deaths from the list of 113 Selected Causes of Death.

Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012.

Figure A2.2. Crude Death Rates by Sex and Race: District of Columbia Residents, 2012



Source: DC Department of Health, Center for Policy, Planning, and Evaluation, State Center for Health Statistics, 2012.

TECHNICAL NOTES

Nature and sources of data

Data in this report for 2008-2012 are based on information from all of the resident death certificates filed in the District of Columbia (DC), including deaths that occurred in DC and DC resident deaths that occurred in other states that were reported to DC through the inter-state exchange agreement. Data for DC were collected and reported using the 2003 Revision of the U.S. Standard Death Certificate.

Mortality statistics are based on information coded by the states and provided to NCHS through the Vital Statistics Cooperative Program and from copies of the original certificates received by NCHS from the state registration offices. For the 2012 data year, DC submitted mortality data in electronic data files to NCHS.

The total DC resident death data were obtained from the State Center for Health Statistics. Vital statistics data for the United States were obtained from the National Vital Statistics System, NCHS data brief, number 168: *Mortality in the United States, 2012* (October 2014).

Cause-of-death classification

The mortality statistics presented in this report were compiled in accordance with World Health Organization (WHO) regulations, which specify that member nations classify and code causes of death in accordance with the current revision of the *International Classification of Diseases* (ICD). The ICD provides the basic guidelines used in virtually all countries to code and classify causes of death. Effective with deaths occurring in 1999, the United States began using the Tenth Revision of this classification (ICD-10). In 2009, the 2008 edition of the ICD-10 was adopted.

In this report, tabulations of cause-of-death statistics are based solely on the underlying cause of death. The underlying cause is defined by the WHO as “the disease or injury which initiated the train of events leading directly to death, or the circumstances of the accident of violence which produced the fatal injury.” The underlying cause is selected from the conditions entered by the medical certifier (i.e., a physician or medical examiner) in the cause-of-death section of the death certificate. When more than one cause or condition is entered by the medical certifier, the underlying cause is determined by the sequence of conditions on the certificate, provisions of the ICD, and associated selection rules and modifications. Generally, more medical information is reported on death certificates than is directly reflected in the underlying cause of death. This is captured in NCHS multiple cause-of-death statistics.

Tabulation lists and cause-of-death ranking

Tabulation lists for ICD-10 are published in updates of the NCHS Instruction Manual, Part 9 (Updated March 2011 to include WHO updates to ICD-10 for data year 2011). For this report, two tabulation lists are used: List of 113 Selected Causes of Death, used for deaths of all ages, and List of 130 Selected

Causes of Infant Death, used for infants (see *Premature Death* section). These lists are also used to rank leading causes of death for the DC population.

Race and Hispanic origin

The 2003 revision of the U.S. Standard Certificate of Death allows the reporting of more than one race (multiple races). DC began reporting on multiple races in March 2005. This change was implemented nationally to reflect the increasing diversity of the population of the United States and to be consistent with the decennial census. The race and ethnicity items on the revised certificate are compliant with the 1997 “Revisions of the Standards for Classification of Federal Data on Race and Ethnicity,” issued by the Office of Management and Budget (OMB). Multiple races include any combination of white, black or African American, American Indian or Alaska Native (AIAN), Asian, and Native Hawaiian or Other Pacific Islander (NHOPI).

Some death certificates currently collect only one race for the decedent in the same categories as specified in the 1977 OMB guidelines; therefore, to provide uniformity and comparability, at least until all or most of the data become available in the multiple-race format, the responses of those for whom more than one race was reported must be “bridged” to single-race categories. Multiracial decedents are imputed to a single race (white, black, AIAN, or API)—with a similar procedure used to bridge multiracial population estimates—according to their combination of races, Hispanic origin, sex, and age indicated on the death certificate. Details of the imputation are described at:

http://www.cdc.gov/nchs/data/dvs/Multiple_race_documentation_5-10-04.pdf.

Race and Hispanic origin are reported separately on the death certificate. Therefore, data shown by race include persons of Hispanic and non-Hispanic origin and are included in the totals for each race group—white, black, AIAN, and API—according to the decedent’s race as reported on the death certificate.

Age of decedent

Age of decedent is computed in most cases from the decedent’s date of birth and date of death as reported on the death certificate.

Population bases for computing rates

Populations used for computing death rates shown in this report represent the population residing in DC, enumerated as of April 1 for census 2010 year and estimated as of July 1 for intercensal years. Population estimates used to compute death rates for DC for 2012 are shown for 10 year age groups. Death rates shown in this report are based on populations that are consistent with the 2010 census levels. Death rates shown in this report by ward are based on estimates from the American Community Survey (ACS) 2008-2012, U.S. Census Bureau that were prepared by the District of Columbia Office of Planning, State Data Center.

Computing rates

Rates in this report are on an annual basis per 100,000 population residing in the District of Columbia. Crude death rates are presented per 100,000 estimated population for each given year and per 100,000 enumerated population for census 2010 in a specified group. Age-specific death rates are per 100,000 population in a specified age group, such as 0-4 years or 5-9 years for the given year.

Age-adjusted rates are used to compare relative mortality risks among groups and over time. However, they should be viewed as relative indexes rather than as actual measures of mortality risks. The age-adjusted death rates eliminate differences in crude rates that can occur when comparison populations have different age structures. The age-adjusted rates were computed by the direct method, that is, by applying age-specific death rates to the U.S. standard population age distribution. The year 2000 standard million population was used for computing all age-adjusted rates shown in this report.

EXAMPLE CALCULATION OF AGE-SPECIFIC, CRUDE, AND AGE-ADJUSTED MORTALITY RATES

Deaths from all Causes in the District of Columbia, 2012

Ages	2012 DC Population	Number of Deaths	Age-specific Death Rates per 100,000	2000 U.S. Standard Population	Number of Expected Deaths in Standard Pop.	Rounding Expected Deaths
0-4	38,876	82	210.9270501	69,135	145.824416	146
5-14	54,413	8	14.70236892	145,565	21.4015033	21
15-24	98,683	69	69.9208577	138,646	96.9424724	97
25-34	139,922	96	68.60965395	135,573	93.0161661	93
35-44	85,312	164	192.2355589	162,613	312.600009	313
45-54	75,690	428	565.4643942	134,834	762.438261	762
55-64	67,538	756	1119.369836	87,247	976.616601	977
65-74	39,698	780	1964.8345	66,037	1297.51776	1,298
75-84	21,188	964	4549.745139	44,842	2040.19672	2,040
85+	11,003	1301	11824.04799	15,508	1833.67336	1,834
Total	632,323	4648		100,0000	7580.22727	7,580

Age-adjusted Rate= Total number of expected deaths/total standard population *100,000

Age-adjusted Rate = 758.0227

Years of Potential Life Lost Calculation

In this report, premature death is defined as any death occurring before the age of 70 years, corresponding with the 2010 U.S. life expectancy at birth, age 78.7 years. Years of potential life lost (YPLL) measures years lost due to premature death and emphasizes the effect of premature mortality on a population.

YPLL is calculated using a cutoff age (e.g. 70 years, or often ages 65 or 75 years) and age groups at death. The number of deaths for each age group is multiplied by the years of life lost (the difference between the designated cutoff age and the midpoint of the age range) to provide an age-specific YPLL; the age-specific YPLLs are then summed to obtain a total YPLL for the total population or based on a certain disease or condition, as follows:

EXAMPLE CALCULATION OF YEARS OF POTENTIAL LIFE LOST (YPLL) WITH CUTOFF AGE OF 70 YEARS AGE

Total YPLL in the District of Columbia, 2012

Age Groups	Midpoint of Age Group	Average Years of Life Lost in Age Group*	Number of Deaths	YPLL for this Age group**
<1 Year	0.5	69.5	74	5,143
1-14	7.5	62.5	16	1,000
15-19	17	53	24	1,272
20-24	22	48	45	2,160
25-44	34.5	35.5	260	9,230
45-64	54.5	15.5	1184	18,352
65-69	67	3	385	1,155
70+	70	0	2660	0
Total			4648	38,312

YPLL = Σ [(Number of deaths in each age group) x (Cutoff age – Midpoint of each age group)]

Notes:

*Calculated by subtracting the median age of death in the age group from 70.

**Calculated by multiplying average years of life lost of each age group times the number of deaths.

Random variation

The number of vital events in this report represents complete counts for the District of Columbia and the U.S. Therefore, they are not subject to sampling error, although they are subject to errors in the registration process such as misreporting. Mortality data, even based on complete counts, may be affected by random variation. That is, the number of deaths that actually occurred may be considered as one of a large series of possible results that could have arisen under the same circumstances. When the number of deaths is small, perhaps fewer than 100, random variation tends to be relatively large. Therefore, considerable caution must be observed in interpreting statistics based on small numbers of deaths. The District of Columbia rates are particularly subject to such variations due to small size of the population. Therefore, caution should be exercised when making comparison between The District of Columbia rates and rates from other populations.

Availability of mortality data

Mortality data are available in publications, unpublished tables, and electronic products as described on the Department of Health, [Center for Policy, Planning, and Evaluation](#) and [Vital Records](#) websites. The specific criteria for reviewing requests for vital records data can be found on the Vital Records website by following the “Request for Use of Data with Identifiers and Statement of Assurances” link. Additionally, more detailed analysis than provided in this report is possible by using the mortality public-use data set issued each data year.

Definition of terms

Crude death rate	Total deaths per 10,000 population for a specified period. The crude death rate represents the average chance of dying during a specified period for persons in the entire population.
Age-specific rate	Deaths per 100,000 population in a specified age group, such as 1-4 years or 5-9 years for a specified period.
Age-adjusted rate	A statistical weighted average of the age-specific death rates, where the weights represent the fixed population proportions by age. The death rate used to make comparisons of relative mortality risks across groups and over time. This rate should be viewed as a construct or an index rather than as a direct or actual measure of mortality risk.
Premature death	A death occurring before the age of 70 years.
Health Spending Per Capita	Spending for all privately and publicly funded personal health care services and products (hospital care, physician services, nursing home care, prescription drugs, etc.) by state of residence (aggregate spending divided by population). Hospital spending is included and reflects the total net revenue (gross charges less contractual adjustments, bad debts, and charity care). Costs such as insurance program administration, research, and construction expenses are not included in this total.)
Fiscal Year	October 1, 2011 through September 30, 2012.

Abbreviations and Acronyms

AIDS	Acquired Immunodeficiency Syndrome
CDC	The Centers for Disease Control and Prevention
CHIP	Children’s Health Insurance Program (Medicaid)
DC	District of Columbia

GIS	Geographic Information Systems
HIV	Human Immunodeficiency Virus
ICD-10	International Classification of Diseases, Tenth Revision of this classification
NCHS	National Center for Health Statistics
WHO	World Health Organization
YPLL	Years of Potential Life Lost

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